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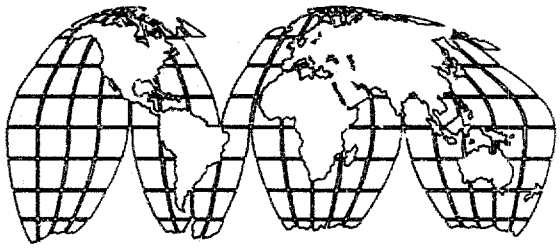

An Assessment of USAID's Agribusiness Program

Sri Lanka Case Study

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

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This Working Paper is one of a number of case studies prepared for CDIE's assessment of USAID Legal Systems Development programs. As an interim report, it provides the data from which the assessment synthesis is drawn. Working Papers are not formally published and distributed, but interested readers can obtain a copy from the DISC.

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INTRODUCTION

This country case study is one of seven case studies conducted for CDIE's evaluation of agribusiness promotion programs initiated and supported by the United States Agency for International Development. (USAID) The objectives of the global evaluation are to examine the performance and impacts of agribusiness programs, determine their relative costs and benefits, and derive policy and programmatic lessons that can be used by the USAID in developing new projects and programs.

In Sri Lanka, the agribusiness program has been a logical culmination of USAID's earlier projects in irrigation, agricultural research, and crop diversification as well as in private sector development. This assessment focuses on five projects - Mahaweli Agricultural and Rural Development Project (MARD), Mahaweli Enterprise Development Project (MED), Agro-Enterprise Project (AgEnt), Entrepreneurship Development Training Program (EDTP) and Commercial Small-Farm Development Program (CSFDP), which are either exclusive agribusiness initiatives or have significant agribusiness components.

A three-person team visited Sri Lanka for four weeks during October 1993 to conduct fieldwork for this assessment. Prior to its departure, the team conducted a comprehensive review of available documents on agribusiness projects in Sri Lanka and met with knowledgeable individuals in USAID as well as in contracting firms. For its fieldwork, the team interviewed over 60 USAID direct hires, contractors, host country officials, and outside experts to gather information and ideas. It also visited field sites; interviewed the managers and staff of agribusiness enterprises, commercial farms, and farmer organizations; and met with contract farmers. In addition, the team commissioned surveys of small, medium and large agribusiness enterprises and reanalyzed survey data of a study of gherkins-growing contract farmers conducted in 1992.

This report is organized into five chapters.

The first chapter provides a brief description of the economic and social landscape of Sri Lanka and explains the nature of the five projects which constitute the agribusiness program in the country. It also explains the major intervention strategies followed by the program.

The second chapter critically examines the contribution of the program in generating and/or strengthening agribusiness enterprises, commercial farms producing high-value crops, and farmer organizations involved in agribusiness activities.

The third chapter explores the program's impacts on employment and income generation, the status of women, and the promotion of a climate conductive to the growth of agribusiness sector. It also seeks to answer the question: Are small farmers benefiting from the program?

The fourth chapter presents economic analysis of the two major components of the programs--MED and MARD--for which adequate economic data were available.

Finally, the last section identifies major lessons learned.

ACRONYMS

ACDI - Agricultural Cooperative Development International
AgEnt - Agro-Enterprises Project
ARTI - Agrarian Research and Training Institute
BOC - Bank of Colombo
CBSL - Central Bank of Sri Lanka
CSFDP - Cooperative Small Farmer Development Project
DBSL - Development Bank of Sri Lanka
DFCC - Development Finance Cooperation of Ceylon
EDB - Export Development Bank
EDP - Entrepreneur Development Program
EDTP - Entrepreneurship Development Training Program
EIED - Employment Investment and Enterprises Division of the MASL
GSL - Government of Sri Lanka
ISTI - International Science and Technology Institute
MARD - Mahaweli Agriculture and Rural Development Project
MASL - Mahaweli Authority of Sri Lanka
MBC - Mahaweli Business Centers
MEA - Mahaweli Economic Agency of the MASL
MED - Mahaweli Enterprise Development (Project)
MIS - Management Information System
MOF - Ministry of Finance
MOPP&PI - Ministry of Policy Planning and Plan Implementation
NDB - National Development Bank
NGO - Nongovernmental Organization
PIP - Pre-investment Programs
PVO - Private Voluntary Organization
SSE - Small Scale Enterprises
TA - Technical Assistance
USAID - United States Agency for International Development

CHAPTER 1

COUNTRY SETTING AND PROGRAM DESCRIPTION

1.1. COUNTRY SETTING

(a) Macroeconomic Situation and Policy Framework

The overriding factor explaining economic performance and the level of development is Sri Lanka's long-standing social welfare policies. Socialist policies dating back to independence resulted in affordable rice for all Sri Lankans, national rice self-sufficiency based entirely on smallholder production, and literacy rates and health standards that have been among the highest in the developing world. Sri Lanka's economic approach included extensive economic controls, regulations, and a major role for government owned enterprises. Through the 1960s the approach seemed to work, however, the economy started to run out of steam in the early 1970s.[1]

Following a period of poor economic performance from 1970 to 1977, the Government of Sri Lanka turned away from its statist development approach and in 1977 introduced a new set of economic policies that sought to gradually increase the role of markets by relaxing the regulations on the private sector. Reforms reduced restrictions on pricing, investment and external trade, and payments. The supply response was strong--the average annual rate of Gross Domestic Product (GDP) growth increased to 6 % during 1978 to 1982 compared with about 3 % in the early 1970s. The donor community supported the liberalization with a massive aid program that included major assistance for the Mahaweli irrigation system. However, within a few years the pace of reform lagged and new problems arose.

By the mid-1980s it became clear that without faster, more sustainable economic growth, the country's accomplishments could not be maintained. It also became obvious that Sri Lanka was falling behind many of its Asian neighbors in economic performance and overall standards of living. The country's social programs were drawing resources away from productive investments and excessive government control of economic activity was preventing the private sector from responding efficiently and competitively to changing market conditions.

The escalating ethnic and political conflicts and the faltering of government economic reforms hurt the economy badly from 1983 to 1989. GDP growth fell to only 2.7 % per annum

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[1] Social welfare services were financed by revenues of the plantation industries based on earlier investments in that sector and the country's infrastructure. During the 1960s and 1970s, the lack of investment raised questions of the "sustainability" of the country's social welfare programs.

during 1987 to 1989 and derailed reforms. With the assistance of bilateral and multilateral donor agencies, the government pursued the policy reform process once again in 1989. Since then, it has introduced a market-determined exchange rate, removed most of the price controls and subsidies, and privatized many government-owned enterprises. The results have been quite encouraging. GDP has grown 5 % a year, budget deficits have been reduced by one-third, inflation has been cut nearly in half, and there has been a rapid expansion of domestic and foreign private investment.

Tables 1.1 and 1.2 provide country economic and social statistics.

TABLE 1.1
COUNTRY STATISTICS AND ECONOMIC INDICATORS

Total Area	24,886 Square Miles (slightly larger than West Virginia)	
Population	17.6 Million (est. July 1992)	
Ethnic Divisions	Sinhalese	74 %
	Tamil	18 %
	Moor	7 %
	Other	1 %
Literacy	86 % (Male 91 %, Female 81 %)	
Life expectancy at birth	Male 69 years, Female 74 years	
Population growth rate	1.2 % (1992)	
Total fertility rate	2.2 children born per woman	

TABLE 1.2
KEY ECONOMIC INDICATORS

Economic Indicator	1988	1989	1990	1991	1992	1993 est.
GDP Growth, percent (constant prices)	2.7	2.3	6.2	4.6	4.3	5.3
GNP per capita, US $	375	367	417	460	494	520
Agric. % share of GNP	22.4		19.9	19.2	18.0	n.a.
Agric. Sector Growth	0.9		8.5	1.9	1.5	n.a.
Inflation (Consumer Price Index), % change	14.0	11.6	21.5	12.2	11.4	9.0
National Savings/GDP	14.4	14.6	16.7	15.1	18.3	19.0
Exports/GDP		27.3	30.2	28.7	32.4	32.0
Nontraditional exp. as % of total exports	64.0	66.7	68.8	73.6	81.4	n.a.
Exchange Rate Rs/US$	31.8	36.0	40.1	41.4	43.8	48.0

Sources:
World Bank, "Country Economic Update", April 1993, Washington CIA, "The World Fact Book", 1992, Washington, D.C.

(b) The Agriculture Sector

Despite recent reforms, Sri Lankan agriculture still remains largely protected and regulated. Government policies have been traditionally directed at achieving food self-sufficiency rather than increased agricultural production and efficiency. These policies include cropping and land-use restrictions; excessive protection of food crops, particularly rice; and the dominance of inefficient government-owned enterprises in the plantation subsector.

Outside the plantation subsector, most farms are less than one hectare. In the high rainfall lowlands, the main crop is rice, but coconuts, rubber, and a wide range of field crops are also grown. Much of the low rainfall area is irrigated. Here, the major crop is also rice, supplemented by livestock, tree crops, and cereals grown in the non-irrigated uplands. The high altitude center of the country produces tea, fruits and vegetables as cash crops, and cereals for subsistence. The country's traditional agricultural exports--tea, rubber, and coconut products--are mainly produced in estates owned by the private and public sectors.

An overwhelming majority of farmers grow primarily rice for home consumption, with a small marketable surplus of rice, fruits, and vegetables which are sold in nearby market towns. Productivity, particularly for rice, in these small farms is quite low. Consequently, there is little marketable surplus and little value added in storing, processing, and marketing agricultural commodities with the exception of traditional agricultural crops. Thus, if the plantation subsector is not included, the contribution of private sector agribusiness enterprises to the national economy has not been significant until recently.

With the increasing decontrol of agricultural inputs supply and marketing, the private sector agribusiness sector has began to grow. Large commercial firms have taken over most of the importation, processing, distribution, and marketing of fertilizers and agro-chemicals. Small firms and traders have also become quite active and compete with the government supported cooperatives. Private sector firms are increasingly exporting vegetables, fruits, flowers, and ornamental fish to the European and the Middle Eastern markets. Food processing has also expanded, albeit, on a small scale. There is little doubt that the growth of agribusiness sector is likely to continue with the growing middle class and changing life styles of the people.

What is equally interesting is that the national planners and policy makers have come to realize that without the growth of the agribusiness sector (based on high-value commercial crops, value-added processing, and improved agricultural marketing) the problems of poverty and unemployment in rural areas cannot be solved.

1.2. USAID PROGRAM DESCRIPTION

Since the late 1980s, USAID has funded several projects that have directly or indirectly promoted private sector agribusiness development in Sri Lanka. The three major projects are MARD, MED, and AgEnt: the first two have important agribusiness components while the last is almost solely an agribusiness project. In addition, USAID has co-financed two small PVO projects--one managed by AGROMART Foundation and the other by Agriculture Cooperative Development International. Below are some details about these projects.

(a) Mahaweli Agricultural and Rural Development Project (MARD)

MARD is the first major agricultural development project to have also promoted agribusiness growth. Its purpose is to increase the income of farmers in Mahaweli System B. It was approved in FY 1987 as an eight-year, $14 million project scheduled for completion in FY 1995. In 1991, the project was amended and given an additional $9 million totaling $23 million. The purpose of MARD is to develop the full potential of 21,314 hectares of irrigated land and 28,609 hectares of associated unirrigated uplands, supporting 25,151 settler families.

The existing irrigation system and models for agriculture production are based upon paddy cultivation. However, the returns from a rice-only production scheme are low. MARD aims to move production from paddy to more profitable diversified crops for both domestic and foreign markets. Its strategy is to diversify away from complete reliance on rice production

The $15 million in USAID project funding is divided into three components: policy ($1.5 million), small-scale and microenterprises ($8.5 million), and medium- and large-scale enterprises ($5 million).

The Policy, Procedures and Regulations (PPR) component carries out policy studies and conducts a dialogue with Mahaweli authorities on issues that affect the investment climate. The key policy issues are land tenure, access to water for irrigation, and the general attitude of the Mahaweli Authority of Sri Lanka (MASL) toward private enterprise, which should not be one of supervision and control but rather partner and facilitator.

The Medium- and Large-Scale Enterprise (MLE) component provides venture development assistance to encourage businesses based in Colombo or abroad to invest in the Mahaweli region. The project provides technical assistance to help develop new technologies and new markets and, for selected pioneering ventures, offers matching grants to help pay pre-investment costs and reduce risks. The project anticipates that a total of 40 investors will receive assistance under this component, of which 20 will eventually undertake successful ventures. This component also actively promotes Mahaweli investment opportunities in Sri Lanka as well as abroad. The Project Paper states that, in the context of an improved environment for agribusiness, this component will generate 9,200 new jobs.

The Small-Scale Enterprise (SSE) component provides advisory and training support to small businesses (most of which are informal sector microenterprises not directly related to the agribusiness sector), helps them establish market linkages with MLEs for domestic and export markets, and helps them obtain credit. The Project Paper calls for advisory services and training for 900 existing enterprises and comprehensive business training for 750 prospective entrepreneurs, of which 20 % will start businesses. This component also helps SSEs form savings and loan associations for the purpose of obtaining credit from formal sector financial institutions. The Project Paper estimates that this component will generate 1,250 jobs by its completion.

(c) Agro-Enterprise Project (AgEnt)

The AgEnt project is designed to stimulate the development and expansion of private agro-enterprises for domestic and export markets. It commenced operation in December 1992 with $14 million in grant funds. The private sector contribution to the project is $20.5 million--$19.1 million in investment funds, $1.4 million in grants, and $0.4 million for training.

The project is entirely a private sector operation; it is managed and implemented by the "Agro-Enterprise Development Group" comprised of both expatriate and local technical experts. Representatives from the private and public sectors comprise its technical advisory committee. It plans to assist emerging and expanding agro-enterprises through a combination of technical services in production, processing and marketing, research and training to support agro-industrial development, and investment packaging to leverage an increased share of the financing available through commercial banks and other financial institutions.

The biggest component--technical assistance--provides for four long-term specialists, one in each of the following four areas: agro-business, marketing and agro-processing, agricultural production, and agro-enterprise financing. In addition, AgEnt has provision for 22-person years of long-term Sri Lankan specialists along with 70-person months of expatriate and 66-person months of Sri Lankan short-term technical assistance.

In 1993, grants were provided to entrepreneurs and firms for marketing trips, attending international fairs and exhibitions, technical consultancies, assistance for processing equipment and supplies, trial plantings, establishing outgrower schemes, and seminars and workshops.

The project is expected to facilitate establishment or expansion of 350 agro-enterprises which should generate 13,000 new jobs, increase production--valued at $8.15 million per year in constant dollars, and increase exports by $4 million per year.

(d) Entrepreneurship Development Training Program (EDTP)

The Agromart Foundation, which was established in 1989, aims to promote entrepreneurship among women and other disadvantaged groups. USAID funded an entrepreneurship development training program in the North Western Province in FY 1992 for $532,962. In FY 1993, the project was also expanded to the Southern Province. In addition to organizing a two-day training program for about 100 trainees each month, the Foundation also undertakes study tours for top entrepreneurs in both Thailand and Sri Lanka.

(e) Commercial Small Farm Development Program (CSFDP)

Under a cooperative agreement with Agricultural Cooperative Development International, a commercial small-farm development project was initiated in 1990 and ended in December 1993. Total USAID assistance to the project amounted to $1,914,475. The project had several components including nucleus farms with outgrowers, an organic farm activity, and small farmer training. The project, in 1992, created Agri-DEV, a nonprofit, limited liability company. Agri-DEV has developed a pineapple nursery to produce smooth cayenne pineapple plants. It has also entered a joint venture with Pickle Packers for creating a new company for the production and marketing of gherkins.

1.3. INTERVENTION STRATEGIES

An analysis of the project documents and activities indicates that they have followed three strategies for supporting agribusiness:

(a) Enterprise Development

In pursuance of this strategy, all projects directly assist entrepreneurs and firms in establishing new agribusiness enterprises or expanding the existing ones. The strategy is based on the recognition that most Sri Lankan firms lack management skills, technologies, financial

resources, and access to engage in agricultural marketing, processing, and inputs supply. Therefore, these projects provide training, technical assistance, access to information and technology, assistance to seek credit, and even a share of investment in research and development, to overcome these constraints.

(b) Intermediation for Market Development

This strategy involves market development for agribusiness products. Both MARD and MED have tried to expand export markets for fruits, vegetables, spices, herbs, and specialty and unique products. Following this strategy, they have expended resources in conducting studies of foreign markets, establishing contacts with overseas firms, and promoting visits by Sri Lankan entrepreneurs to foreign countries.

(c) Policy, Procedures and Regulations Reform

For the past decade, USAID has been supporting macroeconomic policy reforms which have spurted private sector activity in Sri Lanka. Because there was a separate project designed to promote agricultural sector reforms by strengthening policy analysis capabilities in the government, agribusiness projects focused more on reforms in procedures and regulations than on policies. MARD and MED have tried to document existing constraints and assist government officials in the Mahaweli region to make existing procedures and regulations more conducive to agribusiness development.

1.4 GEOGRAPHIC FOCUS OF THE ASSESSMENT

This case study primarily focuses on USAID's agribusiness program in the Mahaweli region because MARD and MED, the two major projects having substantial agribusiness activities, exclusively focus on this region. The third major agribusiness project, AgEnt, which is a nation-wide project, is too recent to have produced tangible results. However, the data and information from two other PVO co-financed projects have been used to illustrate the findings and conclusions.

In 1977, the Sri Lankan Government began its first major attempt at regional development targeting Mahaweli, the country's dry zone, with the Accelerated Mahaweli Program. This involved building four major dams, many other smaller dams, and several hundred miles of canals on the Mahaweli, Sri Lanka's largest river. All this increased the country's electricity by about 50 % and created over 40,000 hectares of newly and better irrigated land. A settlement component for families in the region, including comprehensive land reform, was also part of the government's plan. As of 1993, project costs for development of this region have totaled approximately $2.0 billion.

The Mahaweli region has been broken down into three major irrigation areas designated as System B, System C, and System H. Each system is then subdivided by zones. In 1987, approximately 325,000 persons, in 60,000 families, lived in the Mahaweli settlement regions.

CHAPTER 2

PROGRAM PERFORMANCE

In this chapter, the performance of the USAID program in promoting agribusiness enterprises in Sri Lanka is critically examined. The USAID program has been involved in creating and expanding five categories of business enterprises--large, medium, and micro agribusiness firms, commercial farms, and farmer organizations which have recently started input supply and marketing activities. All these five types of agribusinesses are discussed below.

2.1. LARGE AGRIBUSINESS ENTERPRISES

The program's major focus has been on large enterprises in the agribusiness sector. Each of the three major projects (MARD, MED and AgEnt) as well as the PVO co-financed CSFD initiative, have been trying to induce large national firms to make investments in agricultural processing and marketing. Outside the plantation sector, there are 15 to 20 large (employing 25 or more full-time or equivalent part-time employees) agribusiness enterprises in Sri Lanka. More than half of them have started some production and marketing activities in Mahaweli with or without USAID assistance.

In the Mahaweli region, the pre-investment programs (PIPs) of the MED project represent a comprehensive attempt to attract investments by large enterprises. They are custom-designed packages of assistance provided to support pioneer investors in which the USAID program shares unusual risks and extraordinary costs with investors. PIPs provide entrepreneurs direct access to expertise in production, management, and marketing techniques. To be eligible, the investor should be willing to share the cost of PIP assistance and help other pioneer investors, when necessary, by sharing his/her experiences. The investor should also possess the requisite management and financial capacity to undertake the proposed investment.

The eligible activities for PIPs are commercial-scale agricultural production with priority on fruits and vegetables; post-harvest packing, processing, and storage of commercial agricultural crops produced; packaging, transport, and marketing activities, and off-farm activities in the manufacturing, tourism, and services sectors.

In addition to PIP programs, which are available in Mahaweli only, the USAID program also supports large enterprises through its AgEnt project on the national level. Owners and employees of these enterprises are targeted for training, overseas study tours, access to export market information, technical assistance for production and processing technologies, and loans and grants for research and development activities. Since AgEnt only started operating in 1993, it is too early to have concrete results.

Large enterprises are presently undertaking two types of activities:

(a) Agricultural Processing

In order to introduce new packing and post-harvest handling technologies for improving quality of fresh produce and to meet quality requirements for export markets, MARD and MED provided assistance to two agribusiness farms for establishing packing and cold storage facilities in Mahaweli.

TESS (Pvt) Ltd. has been a pioneer in installing the country's first modern packhouse and cold chain with a 50-ton capacity. It received a grant of $340,000 from the MARD project, and its packhouse and cold chain became operational in June 1992. During the third quarter of 1992, the facility processed and packed almost 300 tons of cantaloupe, melon, baby corn, and other export produce. But TESS soon ran into problems as its major client abrogated its contract because of a dispute over charges. Since then, TESS has failed to attract major clients and has been running much below capacity. For example, it could process only 87.2 tons of produce during February to September 1993.

Since the facility is operating much below its capacity, it has been incurring considerable losses. The owner is frustrated while the potential customers are reluctant to use it because of high charges. In any case, the expectation that the facility would contribute to rapid processing of export crops at reasonable prices has not fulfilled--and is not likely to be fulfilled in the near future.

The case of a packing house in the Uda Walawe, which was installed by ACE Processing Ltd., looks more promising. The firm received $300,000 from MED for a packhouse similar to TESS. But there is an important difference: it largely caters to the requirements of ACE Processing only, which runs a commercial farm with outgrower farmers in Mahaweli. It does not serve other firms in the region. The packhouse made its first shipment in October 1993.

(b) Export of Nontraditional Agricultural Produce

Many large firms have also started exporting nontraditional agricultural commodities from Mahaweli. However, they do not produce them themselves. Rather, they contract local farmers (known as outgrowers) to grow them. The firms usually provide the required inputs, particularly seeds, and technical advice to the contracted farmers. When the produce is ready, they buy it at predetermined prices and process it for exports. Because of this arrangement, the firms are spared the trouble of managing big farms and large armies of agricultural workers. They also do not have to take high risks inherent in the cultivation of labor-intensive cash crops.

One crop which large agribusiness firms have been successful in contract producing and exporting is the gherkin. It is a highly labor-intensive crop which can be easily grown in Mahaweli. Sri Lanka exported 8,853 metric tons of gherkins in 1992, which was expected to increase to 10,000 metric tons during 1993.

The Assessment Team gathered data about gherkin acreage and farmers from five major firms which are presented in Table 2.1.

Table 2.1
GHERKIN CULTIVATION IN SRI LANKA

Name of the Firm	MAHAWELI ACREAGE		OUTSIDE MAHAWELI ACREAGE		TOTAL ACREAGE		# OF FARMERS	
	1992	1993	1992	1993	1992	1993	1992	1993
Forbes International Services	150	90	750	1410	900	1500	3600	6000
Sunfrost Ltd.	75	100	1312	1750	1387	1850	5500	7400
Pickle Packers & Growers	--	125	--	400	--	525	--	1312
Vanatha Vineyard	--	50	--	200	--	250	--	1000
Aitkin Spence	--	105	1143	1160	1143	1265	4570	5060
Total	225	470	3205	4920	3430	5390	13670	21772

An interesting, and even discouraging, finding of Table 2.1 is that despite the fact that Mahaweli has been the primary focus of the USAID program, it accounts for less than 10 % of the total land under gherkin cultivation. What is still more discouraging is that a few agribusiness firms were not satisfied with the existing conditions in Mahaweli and were even considering moving elsewhere.

The biggest problem which the firms face is the low productivity. The average yield of 2 to 3 tons of gherkins per acre is quite low as compared to 6 to 8 tons in other countries. Poor soil conditions, inadequate soil preparation, insufficient inputs, particularly fertilizers, irregular irrigation, and above all poor supervision shed light on the low productivity. The USAID program is planning to share costs with companies for two U.S. gherkin experts to identify the reasons for the low yield and suggest concrete steps to improve it. The consultants would work with major firms and agricultural research institutions.

Indications are that the low productivity does not pose an immediate threat to gherkin exports from Sri Lanka. Because of their high labor costs, traditional gherkin producers, such as the U.S., Holland, Spain, and Italy, no longer export them; they have become importers instead of being exporters of gherkins. As a result, Sri Lankan firms are in a position to carve a niche in international markets, until of course some other countries, such as India or Vietnam, which have greater cost advantage, enter the field.

In addition to gherkins, agribusiness firms have also started exporting a variety of high-value crops such as baby corn, cashews, okra, eggplant, and broccoli. Although the volume of these exports remains almost insignificant, it does demonstrate untapped potential for nontraditional agricultural exports.

It is indeed premature to pass a definitive judgement on the performance of the USAID program with regards to the promotion of large enterprises in Mahaweli. The economic landscape is constantly changing, and it is quite possible that many initiatives, which are still in gestation stage, could make Mahaweli more attractive to large agribusiness firms. But as the matter stands, the performance has been a mixed one.

The underlying assumption that the USAID program would attract large foreign and national firms to invest in agro-processing has proved to be unrealistic. As mentioned above, only two agro-processing ventures have been established, and in both cases, the USAID program subsidized almost 50 % of the total costs. Even then, one is incurring losses, while the other largely caters to the needs of the parent firm only. On the positive side, large firms are now exporting nontraditional agricultural commodities. While the USAID program cannot take full credit for it, it has certainly contributed to this development.

2.2. MEDIUM-SIZE AGRIBUSINESS ENTERPRISES

Although the USAID program assists medium-size firms (defined as enterprises that employ between 5 to 24 full-time employees or equivalents), the latter have not received as much attention as large enterprises.

Precise data about the number of medium agribusiness firms operating in Mahaweli is not available. However, a review of business census reports and interviews with experts indicated that there are between 25 to 35 firms which fit this category. They are engaged in the commercial production of high-value agricultural products, milling and grinding, marketing, and the supply and repair of agricultural implements. To obtain additional information, the Evaluation Team commissioned a mini-survey of 15 medium agribusiness enterprises operating in Mahaweli.

Some relevant findings:

* When the current values of their buildings, equipment, and machinery are taken as proxy measures of their investments, the average investment by the medium-size agribusiness firms does not appear to be substantial. Two-thirds of the sampled firms had assets of Rs. 1 million or less ($20,000).

* Individual ownership predominate in medium-size firms. Eight out of 15 firms are individually owned; the others are partnerships or private limited firms.

* The age of these firms ranges from 1 to 8 years. It is interesting that nearly half of them are 4-years-old or older, and were established before USAID's agribusiness program had started.

* The total employment in the surveyed firms is not large. At the time of the survey, they had 160 full-time and 87 part-time employees. Thus, the average for a firm is 10.6 full-time and 5.8 for part-time employees. However, these averages mask considerable variability among firms.

* The firms pay market wages which are low in Mahaweli. Many educated employees indicated that wages were not attractive and they could earn more doing part-time work in the construction industry even in unskilled and semi-skilled jobs. The wages in the service industries--rice milling and light engineering--are about 60-75 % higher than those paid on commercial farms.

* An overwhelming majority of employees are men. There is also a wage differential of 10 to 15 % between men and women.

* Two-thirds of the firms cater to domestic--local and urban--markets while the remaining ones cater to foreign markets.

Table 2.2 gives information about the type of assistance provided by the USAID agribusiness program to medium-size firms and its assistance to these firms.

Table 2.2
EVALUATION OF ASSISTANCE
BY MEDIUM-SIZE AGRIBUSINESS ENTERPRISES

TYPE OF ASSISTANCE	RECEIVED	FAIRLY GOOD	GOOD	VERY GOOD
Training	34.6%	11.1%	33.3%	55.5%
Technical Assistance	61.5%	18.7%	43.7%	37.5%
Market Information	19.2%	20%	40%	40%
Technology Procurement	3.8%	-	100%	-
Facilitate Access to Credit	34.6%	-	50%	50%
Input Supply	23.8%	-	20%	80%

The table shows that a majority of firms received technical assistance from the USAID program and the recipient firms were highly satisfied with its quality. But it also reveals a rather uncomfortable picture: Two-thirds of enterprises did not get any other type of assistance, such as training, market information, technology, or facilitation of credit and

input supply from the program, which would, according to interview responses, have been equally, if not more important, to their growth and expansion.

In interviews with the Assessment Team, firms made three modest, practical recommendations. First, the program should assist local entrepreneurs who are willing to start or expand transportation facilities for moving agricultural commodities from Mahaweli. For example, loans, and even subsidies, can be given to purchase trucks, and technical assistance can be provided to improve packaging. Second, the agribusiness program should facilitate modernization of traditional markets such as the weekly 'pola' by improving accessibility, site maintenance, and transport arrangements. Third, entrepreneurship training activities should be reoriented to meet the needs of medium-size enterprises. Such a reorientation will require a greater focus on marketing and management.

2.3 MICRO AGRIBUSINESS ENTERPRISES

Microenterprises have been defined by the USAID program as the firms employing one to four full-time employees or their equivalents. Although precise data about agribusiness microenterprises in Mahaweli is not available, they are estimated to constitute nearly half of microenterprises in the region.

The MED project assists microenterprises through its 12 Mahaweli Business Centers (MBC) which offer a combination of advisory and supporting services. For example, these centers help existing or potential entrepreneurs in formulating business plans, learning bookkeeping, procuring credit, forming saving and credit societies, and accessing secretarial and communication facilities.

The Evaluation Team commissioned a mini-survey of agribusiness microenterprises. A sample of 40 firms served by Bakamuna and Madatugama business centers was selected for the survey. Some of the findings of the survey are as follows:

* The overwhelming majority (93 %) of agribusiness microenterprises are owned individually. Only four of the businesses surveyed are family owned and another two are partnerships.

* Only 10 % of the enterprises in the agribusiness sector are women owned, which is certainly below the average of 18 % for all microenterprises assisted by MED.

* More than one-third of the microenterprises are over five-years-old, and nearly 80 % are 2 years or older which is indicative of their capacity to survive.

* 57 % of microenterprises reported gross monthly sales of Rs. 20,000 ($400) or less. Assuming that their net profit is between 15 to 20 % of the gross, these firms are likely to earn between Rs. 3,000 to Rs. 4,000 ($60 to $80) per month, which is not

an insignificant amount in Mahaweli.

* The volume of investment in these microenterprises is low: 57 % of entrepreneurs invested less than Rs. 100,000 ($2,000).

* The total employment in the agribusiness microenterprises surveyed increased from 81 (37 enterprises) in 1991 to 150 employees (40 firms) in 1993. In other words, the number of per unit employees increased from 2.19 to 3.75 within a span of two years, which represents an annual growth rate of 37 %. If we exclude proprietors and family members, the number of full-time employees increased nearly fourfold, from 13 in 1991 to 50 in 1993, and part-time employees from 8 in 1991 to 36 in 1993.

* The total female employment is marginal--only 10 in 1991 increasing to 13 in 1993. This is hardly surprising as the agribusinesses covered in the survey fall within the domain of male occupations.

* All microenterprises, which are three-years-old or older, reported improved sales and increased profits during the past 3 years. About 68 % of the owners bought additional machinery/equipments, while 50 % have enhanced their personal assets and improved their standard of living.

Table 2.3 gives data about the nature of assistance agribusiness microenterprises received from the USAID program.

TABLE 2.3
EVALUATION OF ASSISTANCE BY AGRIBUSINESS MICROENTERPRISES

ITEM	RECEIVED	FAIRLY GOOD	GOOD	VERY GOOD
Training	75% (30)	3.3% (1)	53.3% (16)	43.3% (13)
Technical Advice	87.5% (35)	14.2% (5)	42.8% (15)	42.8% (15)
Market Information	12.5% (5)	60% (3)	20% (1)	20% (1)
Marketing Substance	12.5% (5)	60% (3)	40% (2)	-
Facilitating Credit	72.5% (29)	69% (2)	41.4% (12)	51.7% (15)
Input Supply	5% (2)	100% (2)	-	-

It is apparent from the table that the assistance is heavily concentrated on general training, technical advice, and access to credit. It does not cover areas such as marketing and procurement of inputs, which are of critical importance to emerging small entrepreneurs in Mahaweli. Recently, MED has taken steps to correct the situation.

The overall picture which emerges from the responses--and which was collaborated by personal interviews--is indeed encouraging. Practically all the firms surveyed had plans for expansion: 93 % intended to invest more capital, 90 % planned to purchase additional machinery and equipment, and 78 % proposed to employ more staff. If these figures are to be taken at their face value, they suggest that not only the existing microenterprises will survive but also that they will expand in the future.

In addition to supporting microenterprises in Mahaweli, the USAID program also supports the Agromart Foundation whose entrepreneurship training program exclusively focuses on microenterprises. The Foundation conducts two-day workshops for training potential entrepreneurs in rural areas. A lecture format is used for most of the sessions. The Foundation claims that its training has "proved very successful as more than 70 % of the trained participants initiated small microenterprises" in agriculture, livestock, and service sectors. (Annual Report, 1993: The Agromart Foundation) Prior reviews indicate a high level of impact and success.

The Assessment Team is not convinced that a two-day training program, under very crowded conditions, conducted by local officials, and using mostly a lecture format could achieve such impressive results. An objective assessment of these training programs and their impacts is needed to examine the reported claims of the Foundation. This is not to imply that the training program has no positive impact on microenterprises in the North Central and Southern provinces.

On the whole, the USAID program has had a positive effect on the growth of microenterprises. Those who received assistance value it; they certainly want more and not less of it. But the USAID program has been able to reach only a tiny segment of existing or potential entrepreneurs. Although business centers have ambitious plans for Mahaweli, these are yet to be realized. And it is doubtful if they will materialize because of time and resource constraints.

2.4 COMMERCIAL FARMS

The USAID program has been promoting commercial farms of 10 to 20 hectares in Mahaweli. It expects that such farms will pioneer the adoption of high-value crops with export potential. In addition, they will contribute to improved marketing arrangements and introduction of more sophisticated technologies. Consequently, 2,500 hectares of irrigable uplands were earmarked in System B for commercial farms. Later a provision was also made for such farms in Systems C, H, and Uda Walawe. Entrepreneurs were to be given transferable leases for up to 30 years, depending on the nature of the proposed project and crops to be grown. Box 2.1 briefly describes three farms which give an indication of their operations.

Box. 2.1

Examples of Commercial Farms

a. Ameen Farm. This farm was started in May 1990, and is owned by a businessman having close commercial networks in the Middle East, particularly Kuwait. The owner invested his own funds to develop the land and has hired a qualified manager to run its operation. The farm is now producing gherkins, chilies, and baby corn for export markets and has proved to be a profitable venture. The owner has requested additional land to grow mangoes, and his application is likely to be approved.

b. Eriyagama Farm. This 59-hectare farm (three lots) started in 1985 with high expectations which have not been realized. There was an unusual delay in land preparation, and even when a part of the land was cleared, it was not cultivated. Only in 1991 did the farm start growing gherkins and onions. Neither of the crops proved to be profitable. Poor management, a lack of farming expertise, and inefficient marketing contributed to its failure. Consequently, lessees lost interest and even stopped paying the rent to the authorities. The farm is now left with only one lot; the other two have been cancelled. The owners now plan to convert it into a poultry farm.

c. Perera farm. This 10-hectare farm began its operations in May 1990. The owner started cultivating gherkins, on half of the land, which were sold to Forbes Agricultural Services. He also installed an irrigation system over about 10 hectares. He also tried other high-value crops but did not succeed because the farm was operated by a manager who did not have much farming experience. Since 1991 the owner has more or less abandoned the land and Mahaweli authorities are now expected to cancel the lease.

The progress so far has been disappointing. The original target of establishing about 50 to 70 farms in System B alone is unlikely to be met. The number of these farms is declining rather than increasing: while there were 36 farms by mid 1992, only 26 survived at the end of the year. Many farms stopped cultivation after one or two years of operation. Others cleared only small portions of allotted lands. Still others are cultivating only one or two crops. An evaluation conducted by MED in 1993 categorized only two farms as "good" and another six as "fair." Details are given in Table 2.4.

Table 2.4
Assessment of Commercial Farms in Mahaweli System B

Assessment	No. of C. Farms
Excellent	0
Good	2
Fair	6
Poor	7
Very Poor	3
Cancellation Recommended	5
Not Evaluated	2
Abandoned	1
Total	26

Source: MED records

Several factors explain the poor performance of the program in promoting commercial farms.

First, the Mahaweli authorities have been very slow in providing long-term leases to entrepreneurs. They prefer to give "annual permits" which are valid for one year. Even the process of obtaining these permits is both time-consuming and arduous. As a result, entrepreneurs find it difficult to raise capital from banks or other financial institutions. Moreover, in the absence of long-term legally valid leases, they fear that authorities may change their policy on commercial farming and take back lands allotted on an annual basi. Thus they have been reluctant to make the needed investments in the land.

Second, after acquiring lands, many entrepreneurs have come to the conclusion--which is shared by many agricultural economists--that such farm are not economically viable, much less attractive. They do not provide returns on investments that are available in other sectors. Because of poor physical and institutional infrastructures, limited technical information, scarce capital and uncertain markets, the risks to investors are too high while the profitability is certainly low. Therefore, many firms have abandoned their original plans and are clinging to their lands in the hope that they might find better use for them.

Third, entrepreneurs who have acquired land have had little or no experience in commercial farming. Most of them do not even live in Mahaweli, much less personally manage their farms. The usual practice for lessees has been to entrust the management of farms to inexperienced, poorly paid employees who are either their relatives or friends. Lacking both experience and expertise, these managers fail to grow and market high-value crops in an efficient manner.

Fourth, there is a shortage of both capital and farm labor, particularly during peak agricultural seasons. Many entrepreneurs are not able to raise money needed to develop land and grow commercial crops. Two investors who abandoned their farms mentioned labor shortage as an important reason.

This labor shortage is a problem in the Mahaweli, particularly in System B, which is the newest area, and is affected by security problems. Government policies restrict the investors' ability to bring in outside labor as well as the free movement of labor within Mahaweli. Both of these restrictions are related to, and are exacerbated by, the government's concern for preventing construction of rental housing or the sale or lease of land for labor moving into an area.

Finally, there remains the problem of protecting the property and crops from thieves as well as from elephants.

At the end of 1993, MED discontinued assistance to commercial farms.

2.5. FARMER ORGANIZATIONS (FOs)

Finally, the USAID program, particularly MARD, has been quite innovative in assigning agribusiness roles to farmer organizations (FOs), which are primarily organized to promote an efficient management of water resources at the grassroots level. There are now about 120 FOs, out of which 60 % can be described in a fair\good condition. By October 1993, 22 FOs had been registered and the registrations for another 25 were pending. FOs have so far undertaken the following agribusiness related activities:

a. Negotiating Contract Farming Arrangements

Many FOs have signed contracts with private sector firms and/or public bodies on behalf of their members, under which the latter provide agricultural inputs for specific crops and agree to purchase the produce. The member farmers grow such crops on their own farms, but sell them collectively. Examples of such collective marketing arrangements are:

* At the start of the gherkin outgrower program in 1990, Pickle Packers Ltd. and Sunfrost Ltd. directly dealt with individual farmers. But gradually both the farmers and the firms realized that it would save time and costs if FOs signed the contracts on behalf of their members. As a result, in 1992 13 FOs in Ellawewa, Damminna, and Vijjayabapura had contracts involving 360 farmers.

* In 1993, 20 FOs involving 400 farmers were under contract with the Ministry of Health to produce soya for "thriposha" (nutritional food supplement for children). They obtained a loan of $3,000 from the newly established Seylan Bank.

* Three FOs--Maguldamana, Mahadamana, and Kalukele--undertook the production of cantaloupes for export under a contract in 1992. The contract was renewed for 1993.

* FOs of Kalukele and Mahadamana and Damminna Block women's organizations signed contracts in mid-1992 with CIC Company Ltd. to produce green chilies for export. They also negotiated bank loans amounting to nearly $62,000.

* Many women's organizations, sponsored and supported by FOs in Damminna and Dimbulagala Blocks, cultivated okra for export. About 4 hectares were cultivated in 1992.

Program officials believe that the involvement of FOs has improved the bargaining position of individual farmers. Also, the firms find it easier to negotiate with a FO than with a large number of farmers.

b. Procuring and selling agricultural inputs

FOs have also started purchasing agricultural inputs--fertilizers, insecticides, and pesticides--to sell to their members. Since they buy wholesale, they make a small profit on it. Members are also assured good quality inputs at reasonable prices. One good example of this type of activity is a FO at Pimburettawa which started an input sales center in 1992. During the 1993 Yala season, the center made a profit of $250 on the sale of fertilizers and other inputs. Many other FOs have also made profits on the sale of agricultural inputs.

Program grants to start or expand agribusiness in Mahaweli, which were earlier restricted to private sector firms, are now also available to FOs. These grants, which can be used to procure and distribute agricultural inputs, are to a maximum of $1,000 for agricultural inputs and $300 for capital equipments for the input supply store.

c. Renting Tractors

As a result of a subsidy scheme, FOs have started acquiring two-wheel tractors which they rent to their members for plowing, pumping, threshing, and transporting. This scheme resulted from recommendations made in the midterm evaluation. Each recipient FO is expected to deposit about $5,000 in earnings in separate bank accounts within a two-year period. By September 1993, 18 FOs had received tractors, while an additional 28 were expected to get them by the end of 1993. The agribusiness program managers suggested that using these two-wheels tractors will increase productivity as well as the income of farmers.

d. Sale of Agricultural produce

Many FOs help to market their members' agricultural produce. In a few instances, they even buy and sell it when prices are high. Such an arrangement is advantageous to members because most of the farmers have to sell their produce at the end of agricultural season when

prices are depressed. During the 1993 Yala season, the Galtalawa FO obtained loans from the Seylan Bank and the Peoples Bank to purchase paddy from its members. It sold paddy later at higher prices making a net profit of Rs. 106,970 ($2,140). The FO is planning to use its profits as a down payment to purchase a delivery van for transporting and marketing agricultural produce.

While it is premature to generalize about the agribusiness activities of FOs, there is no doubt that the USAID efforts look promising. At least, five factors seem favorable to the growth and survival of FOs in System B. First, their members are small farmers cultivating more or less the same size of land and using similar production technologies. Thus, their economic interests are identical, which minimizes the potential for conflict. Second, an overwhelming majority of farmers are literate. They can read and write and understand market mechanisms. As a result, they are not suspicious of formal organizations. Third, the farmers are socially and politically conscious. They seem to recognize the value of an organization which can articulate their interests and undertake activities which are profitable to them. Fourth, the Mahaweli authorities are firmly committed to the promotion of these organizations both for ideological and pragmatic reasons. Finally, the organizations are receiving significant financial, technical, and managerial support from MARD.

However, the probability of their failure as agribusiness entities cannot be underestimated for three reasons. First, as FOs are primarily designed to assist in the operation and management of irrigation canal systems, they do not see agribusiness activities as their main function. Second, many FOs may not be able to sustain themselves in the absence of substantial support from the government or a project. They seem to be quite dependent on outside assistance at present. Finally, if these organizations become effective, political parties may start meddling in their affairs.

2.6 FACTORS AFFECTING PERFORMANCE

At this stage, an important question arises: What are some factors and conditions which have affected the performance of the USAID program? At the outset, it should be recognized that the program, particularly the MARD and MED projects, started in a trying and politically uncertain environment. The leftist insurgencies and ethnic conflicts created law and order problems in Mahaweli and in other parts of the country. Although the situation has improved in recent years, the negative impact of the ongoing civil war cannot be underestimated.

Probably the most important factor, which has positively affected the performance, is the policy of liberalization and structural adjustment that the country has followed during the past few years. As mentioned in chapter 1, the government has introduced a market-based exchange rate, removed most of the subsidies and price controls, and privatized public sector enterprises. Consequently, the economic climate has drastically improved, contributing to increased investment by domestic and foreign firms. Entrepreneurs are now more positive and willing to take risks. There is some concern that the present course can be sidetracked with political realignment, but this remains only a remote possibility.

Another positive factor has been the high literacy rates in the country: 91 % of men and 81 % of women can read and write. Because of the high literacy and exposure to mass media, farmers are more receptive to new ideas and approaches. They are able to analyze and appreciate the requirements of agricultural diversification and agribusiness better than the farmers in the other parts of southern Asia. For example, the participation of farmers in the vertically integrated gherkin production and marketing system would not have increased at a rapid rate if the farmers were illiterate and unable to follow the necessary technical specifications.

Finally, the third factor which has positively affected the program is the commitment of the USAID Mission to agribusiness development and autonomy, and the flexibility it has given to the managers of different projects. Although the various constituent projects followed a blueprint approach to their design, the Mission gave the program staff the freedom to make required changes during implementation in the planned activities to meet new challenges and opportunities.

On the negative side, the existing land tenure policy of the government has certainly impeded the growth of commercial farms. The national land policy establishes a 20 hectare upper limit on holdings, which dissuades many large and foreign holders to make necessary investments in commercial farming. Moreover, potential agribusiness investors are not given land title at the outset, and the process for obtaining an MASL annual permit is long, and even uncertain. Finally, many potential investors are concerned that the stated land policy might be reversed in the future to prevent social dislocations and reduce the potential for social and economic disparities in rural areas.

Another important constraint has been inadequate physical and institutional infrastructure. Although significant progress has been made in recent years, Sri Lanka still does not have an infrastructure which is conducive to the growth of agribusiness enterprises. It lacks good roads, an adequate transportation system, and workable communication networks such as telephone and fax facilities. The post-harvest losses are very high, especially in transporting the agricultural produce.

Moreover, the research and extension system for high-value crops is quite weak. Fruit and vegetables requires a well-integrated research base in order to maximize returns to growers or to compete effectively in discriminating international markets. Unfortunately, research on fruits and vegetables is both limited and fragmented (There are 26 agriculture-related R & D institutions reporting to nine separate departments in four ministries). The country has at best limited capability to address technical problems encountered in cultivation, transporting, and processing.

Still, another explanatory factor is the bureaucratic delay and paternalism. As compared to other developing countries, Sri Lanka's bureaucracy is relatively more efficient and less corrupt, but like all bureaucracies it resists the process of change and innovation. While the senior level officials are usually supportive of agribusiness, there remains much resistance to

private sector investments in agriculture and agribusiness at the lower and middle levels. The result is unnecessary delays in implementing the policy and operational decisions made at the upper levels. This factor is further accentuated in the Mahaweli areas, where, because of recent settlement programs, the government controls are stronger and more all-pervasive.

In conclusion, the overall performance of the USAID program has been quite uneven. While it has made a definite, although modest, headway in promoting agribusiness microenterprises, farmer organizations, and to a limited extent nontraditional agricultural exports by large firms, its record on commercial farms has been quite discouraging. Moreover, it has not succeeded in generating significant agricultural processing in Mahaweli by large agribusiness firms.

CHAPTER 3

ECONOMIC AND SOCIAL IMPACTS

The previous chapter examined the effects of the USAID program on the growth of agribusiness enterprises in Mahaweli. In this chapter, an attempt is made to explore the social and economic effects of this growth. The discussion is confined to four impact areas--employment, income, status of women, and orientation to private enterprise development.

3.1. EFFECTS ON EMPLOYMENT

The effects of the growth and expansion of agribusiness on employment can be examined with reference to the following:

(a) employment in agribusiness enterprises and commercial farms;

(b) full and part-time employment on outgrowers' farms;

(c) employment in related industries through backward or forward linkages; and

(d) employment generated by the multiplier effects on the economy.

As no empirical data are available for the last two categories, only the first two are discussed here.

Direct employment in agribusiness enterprises remains quite limited because there are so few and most of them do not employ many workers. As indicated in the previous chapter, only 8 to 10 large agribusiness firms have invested in Mahaweli. The number of medium enterprises ranges between 25 to 35. What is still more important, as most of them do not engage in significant production and processing of agricultural crops, they have not employed large numbers of skilled or unskilled workers. The average employment in a medium/large enterprise is only 17 full-time and nine part-time workers (TEAMS:1993). The number of agribusiness microenterprises is much greater than large and medium-size firms, but they employ fewer workers. The average is less than four employees. Consequently, the total number of employees in agribusiness enterprises is in hundreds, rather than thousands, in Mahaweli.

Agribusiness enterprises have generated considerably more employment opportunities through outgrower programs under which they contract farmers to produce high-value crops. Table 3-1 has data about the number of outgrowers under contract with the six largest agribusiness firms.

Table 3.1
Nos. of Outgrowers From 1990 - 1992.

Name of Firms	1990	1991	1992	Total
1. Aitken Spence Ltd.	0	235	335	570
2. Forbes & Walker Ltd.	600	1400	2600	4600
3. Pickle Packers Ltd.	0	193	237	430
4. Sunfrost Ltd.	195	360	390	945
5. Vanatha Vineyards Ltd.	180	240	240	660
6. Ceylon Tobacco Co.Ltd.	0	0	1518	1518
Total:	975	2428	5320	8723

This table shows that the number of contract farmers has increased more than fivefold in the past three years.

The cultivation of high-value crops requires considerably more labor inputs than paddy crops which are traditionally grown in the Mahaweli. Table 3.2 gives data about person days required for a few important crops during the Maha season.

TABLE 3.2
Mahaweli Irrigated Lands, System B
Maha Season 1992/93
Labor Days Required Per Hectare

CROP	Family Labor	Hired Labor	Total Labor
Paddy (rice)	80	60	140
Chili	579	70	649
Cowpea	350	0	350
Red Onion	550	58	608
Gherkin (cucumber)	587	111	698
Okra	383	67	450
Brinjal	328	60	388
Greengram	459	0	459

Source: Gleason, J., "MAHA 1992/93 Diversification & Cultivation Census Report", MARD Project Report No. 212, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, August 1993

Thus, one obvious result of cultivating high-value crops has been that the demand for labor has increased in Mahaweli region. For example, the cultivation of gherkins which require five times more labor input than paddy, has been responsible for labor shortages in some areas. In many cases, it has even forced farmers to reduce the area under gherkin cultivation or to abandon other crops. In other instances, it has led farmers to keep a few, permanent employees on their payroll. As a survey of gherkin farmers with Pickle Packers Company noted:

> "In some places, it was observed that this labor shortage (caused by gherkin farming) has forced even some farmers who do not grow gherkins as the main crop, to maintain a permanent work force throughout the year...For example, some farmers whose main crop is chili or onion require outside labor during seeding and harvesting periods. However, because of gherkin cultivation, it is now difficult for them to find temporary workers. Therefore they now maintain their work force throughout the year so that they can use them for gherkin as well as other crops when necessary." (Ranasinghe:1993: p.7)

Table 3.3 gives data about the employment created by the USAID program in Mahaweli. It should be noted, however, that these figures are for enterprises, and not exclusively agribusiness firms. The table shows the positive impact of the program on employment.

TABLE 3.3
The Mahaweli Enterprise Development (MED) Project
New Jobs Created in the Mahaweli Project Area
1991, 1992, 1993

Employment Categories	1991	1992	1993
Self Employment, Micro-Enterprise, and Small Enterprise	1132	1165	1021
Agribusiness and Commercial Farms	579	175	258
Private Contract and Outgrower Farmers	1,453	2,892	904
Medium and Large-Scale Enterprises	17	197	330
TOTAL EMPLOYMENT	3,181	4,429	2513

Source: "Mahaweli Enterprise Development Project, MED/EIED Quarterly Report, April-June 1993", Colombo, Sri Lanka, July 1993 and MED/EIED 1993 Annual Report.

Notes:

These are the number of new jobs created each year. For 1991, 1992 and 1993 the cumulative total of new jobs is 10,123. Each part-time job is counted as half a job. Outgrower employment is counted as full-time employment. Employment in garment factories is excluded since the MED Project does not support those factory investments. In 1993 there were 7,065 jobs created in garment factories.

3.2. EFFECTS ON INCOME OF FARMERS AND AGRICULTURAL WORKERS

Closely related to employment generation are the effects of agribusiness on the farmers' and workers' incomes.

The income of farmers cultivating high-value crops rises because these crops fetch higher prices than paddy. A study conducted by MARD indicates that high-value crops generate significantly higher gross and net returns. The findings for a few of these crops are shown in Table 3.4. Although the study was conducted in System B, there is no reason to assume that its findings are not applicable to other Systems in Mahaweli.

Table 3.4
Gross and Net Returns to Crop Production; Irrigable Lands, Maha 1992/93, System B

Crop	Gross Return (Rs/Ha)	Net Return (Rs/Ha)
Paddy	31,737	17,068
Chili	70,297	43,329
Red onion	69,812	46,472
Gherkin	105,299	67,450
Okra	46,967	22,184
Brinjal	56,269	28,752

Source: The MARD Projects Maha 1992/93 Crop Diversification & Cultivation Census Report (August 1993)

One indirect indication of increased income can be gleaned from the amounts paid to farmers by agribusiness firms during 1990 to 1992. Table 3.5 shows that almost Rs. 93 million ($1.9 million) have been paid to the farmers. As expected, the disbursements have been increasing over the past three years.

Table 3.5
Total Outgrower Income (Rs.Mn)

Mahaweli System	1990	1991	1992	Total
Mahaweli System B	3.00	4.70	7.50	15.20
Mahaweli System C	9.80	22.71	9.08	61.59
Mahaweli System H	0.00	2.17	2.63	4.80
Mahaweli Uda Walawe	0.34	5.93	5.06	11.33
Total:	13.14	35.51	44.27	92.92

The critical issue is not if the earnings of outgrower farmers have increased, but rather how much have they increased. This is indeed a tricky question which cannot be easily answered. Certainly, the picture is not as rosy as Table 3.4 might suggest. The vagaries of nature significantly affect agricultural production. Moreover, farmers have difficulty in meeting high, rigid specifications required for export crops. Consequently, a considerable portion of their produce is rejected by agribusiness firms. As gherkins and baby corn are new crops, and not widely consumed locally, rejected crops may be a total loss to farmers which can drastically reduce their profit margin. In fact, farmers have protested about it many times. Finally, it should be noted that the majority of outgrowers grow paddy along with export crops. All these factors should be considered in estimating income growth for outgrowers.

Two agricultural economists, whom the Assessment Team interviewed, estimated a 20 to 30 % rise in the net earnings of the outgrower farmer. In the judgement of the Assessment Team, this appears to be a realistic estimate.

Both farmers and agribusiness firms have been paying minimal wages to the employees because of the high levels of unemployment and underemployment in Sri Lanka. Employees often complain about it. Female workers are usually paid lower wages than their male counterparts. As a mini-survey (TEAMS: 1993: p. 11) commissioned by the Assessment Team pointed out:

> "Many young people complained that the wage rates were not attractive and they would earn more doing part-time work in the construction industry even in unskilled and semi-skilled jobs such as laborers, painters, and masons...There is also a wage differential of Rs. 10 to 15 in the payment made to male and female workers."

There are indications that, as a result of crop diversification, wages of agricultural workers have risen, albeit marginally, in export crop producing areas. For example, a survey (Ranasinghe: 1993: p. 9) has noted that "most of the gherkin growing areas have labor shortages and hence a relatively high-wage rate is a common phenomenon." In interviews,

farmers confirmed that they had to pay higher wages to workers than in the past due to the shortage of labor during the peak agricultural seasons. One would expect that as the magnitude of high-value agricultural exports increases over time, the wages will rise benefitting landless workers in rural areas.

3.3 IMPACT ON WOMEN

When it comes to the ownership of agribusiness enterprises, women constitute a tiny minority. They do not have major or controlling shares in large and medium firms. Nor do they own commercial farms. Even in the case of microenterprises, where one would expect them to be owning a significant portion of businesses, the situation is only marginally better. In Mahaweli, only 10 % of such enterprises are women owned. It has been suggested that for ownership of microenterprises in Northwestern and Southern Provinces, where Agromart Foundation has been undertaking entrepreneurship training, it is possible that the proportion of women-owned agribusiness microenterprises is higher than in Mahaweli. In any case, the ownership structure is highly biased against women.

Socio-economic, rather than legal, barriers explain the current situation. Historically, women have not owned and managed agricultural lands in Sri Lanka. In Mahaweli, an overwhelming majority of allottees have been men. A woman received an allotment only if the male member had passed away after the land was allotted. Although some women have inherited land from their parents, this percentage is small. As a result, only a small proportion of women own agricultural lands to grow high-value commercial crops.

The problem is further compounded by women not owning land and gender-biased lending policies which severely constrain their access to institutional credit. Only recently have lending policies of banks been liberalized to reach out to women who have proved to be better credit risks than men. But the provision of collateral remains a basic impediment to women entrepreneurs who venture into agribusiness.

Although the USAID program did not directly promote women ownership of agribusiness and commercial farms, it has been supportive of them. The program staff and decision makers have been aware of the problem, and are taking steps so that technical and training assistance reach women entrepreneurs. As a result, for example, business consultancies to women have been steadily increasing in the MED project. While in 1991, only 675 consultancies to women were provided, this has jumped to 1585 in 1992.

What have been the effects of the agribusiness program on women? At least, three distinct but interrelated impacts are visible.

One result of agribusiness sector growth has been that the women workers' and farmers' workloads have considerably increased. Women are employed by agribusiness firms, commercial farms, and, above all, outgrower farmers to perform various tasks. But more importantly, they work as unpaid laborers on their family farms growing high-value crops.

For example, a family contributes 507 and 499 person days more than are needed for paddy for cultivating one hectare of gherkins and chilies respectively. As one would expect, women are forced to share part of this additional burden.

Women's employment in agribusinesses or unpaid work on household farms does not usually result in any significant decline in the traditional household responsibilities. They continue to be responsible for cooking, washing, caring for children, and other household chores. Thus, the workload of women is increasing, and will even increase further as the agribusiness sector grows in the country.

On the positive side, outside employment has contributed to the economic independence of women workers. Because of the high literacy rates, women are aware of their rights, and do not normally pass on their earnings to their husbands. Conditions are slightly different in the case of grown-up daughters living with their parents. In such cases, it is not uncommon for young women to share incomes with parents. Most experts agree, however, that women relish their financial independence and seek outside employment to attain it.

The increased income has undoubtedly improved the household's standard of living which benefits both men and women. Even when the earnings accrue to male members, there is no evidence that they spend a disproportionate share on themselves. Family ties are quite strong in this South Asian country and the interests of the family predominate even in an environment of abject poverty. Anecdotal evidence indicates that outgrower farmers spend most of their earnings on food, clothing, and, occasionally, on housing. This general impression is confirmed by the findings of a survey of gherkin farmers (Ranashinghe: 1993: p. 3), which found that:

> "Seventy-five percent of the total income of gherkin growing families is used for the purpose of domestic consumption...The second largest category (18 % of the total income) is reinvested to purchase equipment, chemicals, and fertilizers for gherkin production. During our field visits, particularly in the Puttlam district, it was observed that some gherkin farmers did not even have a small hut to live in. When the investigators inquired into the matter, the cultivators explained that their income was just sufficient for consumption and reinvestment in the cultivation."

Excerpts from interviews about the impact of the USAID program are given in Box 3.1

Box 3.1

Effects on the Agribusiness Program on Women

"Frankly, I do not see much impact on women. It is too early to talk about it. Of course, the economic lot of women who can get work in agribusiness firms or commercial farms is better than those who work on paddy farms. But you should know, women get better paid in garment factories established in Mahaweli."

An agricultural economist

"Yes. Their workload has increased. So what? If you ask women to choose between outside work or no-work at all, all will invariably prefer employment. They live in abject poverty, and whatever little money they earn makes a difference in their lives."

A program staff member

"We have made a difference in the lives of women entrepreneurs. Our experience shows that women are hard working and enterprising. Most of our trainees have started their own businesses. They are better off."

An official of the Agromart Foundation

"You will see change only after 15 to 20 years. I see only a marginal improvement in the status and role of women in Mahaweli region. I don't think that the USAID agribusiness program will have any significant impact."

A Sri Lankan sociologist

3.4 ORIENTATION TOWARDS PRIVATE SECTOR AGRIBUSINESS DEVELOPMENT

Finally, the USAID program is perceptibly, though slowly, changing the intellectual orientation of the elites towards private sector led agribusiness growth. This is undoubtedly the most singular impact of agribusiness growth, which has major implications for the future economic growth of Sri Lanka.

Several programmatic activities are contributing to this change. First, the program staff, in cooperation with other international donor agencies, holds policy dialogues with national planners and decision makers. In such dialogues, the importance of private sector and agribusiness growth are stressed. Second, the program organizes workshops, meetings, and training activities for government officials, business executives, and agribusiness firms staffs on various aspects of agribusiness sector. Third, over the past three years, the program has produced hundreds of publications dealing with technical and management issues relating to agribusiness. Often these publications are also available to interested libraries and research institutions. Thus, the information about agribusiness and its importance to the country has started reaching a wider audience.

Fourth, at the grassroots level, the program has supported entrepreneurship training programs, conducted by Agromart Foundation, and assisted farmer organizations in undertaking agribusiness activities which have often proved to be beneficial. Fifth, the technical assistance which the program has provided to large, well-connected agribusiness firms, has often been widely, and favorably, reported in the press. Finally, the USAID program has also built a small constituency in academic circles by providing grants for research and training and opportunities for consultancies.

But the aforementioned activities, individually or cumulatively, would not have brought a marked change in the orientation of elites, had the program not achieved a limited success in promoting nontraditional agricultural exports. Fortunately, the growth of nontraditional agricultural exports has been quite visible. Newspapers and magazines often report success stories which are comforting to national decision and policy makers desperate about the foreign exchange situation. Thus, the result is that the decision and policy makers have started appreciating the advantages of promoting agribusiness through the private sector.

Several reflective Sri Lankans, whom the Assessment Team interviewed, credited the USAID program for making the country aware of the need for (a) agricultural marketing, storing, and processing, and (b) supporting the growth of private sector in agriculture. This is best captured in a three quotations in Box 3.2.

Box 3.2

Orientation Towards Private Sector Agribusiness

"When USAID started talking about commercial farming and agribusiness, I had reservations about the approach...Now, I feel that they were right. I know that small farmers have benefitted from their relationship with large firms. At least, they are making more money."
A former civil servant

"Well. Certainly you (USAID) have made the government aware of the role of private sector in agribusiness. You made it a bit easier for us to talk to them. Now, the top brass is not hostile...but we have a long way to go."
Chairman of a large firm

"I see a positive change in the orientation towards private sector. Now, senior officials are more favorably disposed, but the problem lies at the middle level of bureaucracy, which is suspicious of businessmen, particularly traders in rural areas."
Manager of a commercial farm

3.5 AGRIBUSINESS DEVELOPMENT AND SMALL FARMERS AND WORKERS

A critical question that is of paramount concern to USAID is: Does the USAID agribusiness program benefit small farmers and landless laborers in Sri Lanka? The answer to this question is an unequivocal "yes". The data and information presented in this chapter, though limited, does indicate that the incomes of outgrower farmers have increased and their living conditions have improved. There is a broad consensus among agricultural economists, government officials, and program staff on this issue. The interviews conducted by the Assessment Team with farmer organizations further confirm this widespread conclusion.

As discussed earlier, small farmers have benefited primarily through contract farming arrangements with large and medium agribusiness enterprises operating in Mahaweli. These arrangements enable them to grow high-value commercial crops and obtain necessary agricultural inputs. But most importantly, they provide them assured markets. In the absence of such contracts with agribusiness firms, it would have been almost impossible for small farmers to grow renumerative export crops. Indeed, contract farming has provided a working model for diversification in agricultural production and value-added processing and marketing in Sri Lanka.

The Assessment Team did not find any evidence that agribusiness development has contributed to a skewed land distribution, transforming small farmers into the employees of agribusiness enterprises or commercial farms. National economic policy and distinctive attributes of the Sri Lankan economic and political systems seem to minimize the potential of such an adverse effect. First, the land distribution is highly egalitarian. Such an agrarian system reduces, if not eliminates, the possibility of large landowners purchasing land from small farmers. Second, both for ideological and political reasons, the government is highly sensitive to the needs and concerns of small farmers. Perhaps, in the case of Mahaweli, it is too protective and paternalistic. It prohibits outsiders from buying land in Mahaweli. Third, farmers are literate and politically conscious. Finally, farmer organizations are becoming active, especially in the System B, and have started bargaining on behalf of small farmers.

Landless workers have also benefitted from agribusiness development to the extent that agribusiness development has generated employment opportunities for them. Although wages are low because of the highly depressed labor market, they are likely to improve with the growth of agribusiness.

CHAPTER 4

ECONOMIC ANALYSIS

While it is important for a project to generate benefits, the real issue is the size of those benefits in relation to project investments and in relation to farmer income. Just having benefits is not enough. If a project costs $1,000 and its yearly net benefits are $1, it is probably not a very good investment. If yearly net returns are $250, it is generating a good rate of return. A financial analysis is based on market costs and benefits. An economic analysis modifies financial or market costs and returns to reflect the "real" costs and benefits to a country's economy. By calculating a rate of return, it is possible to assess benefits against costs and compare project returns to other investments.

To calculate an economic rate of return, price adjustments are necessary when government controls, regulations and special allocations result in inappropriate pricing of project inputs and outputs. In Sri Lanka there are some controls and regulations but most of the economy has been deregulated and decontrolled and market distortions are minimal. Since distortions are minimal, no adjustment is needed in market prices except for farm family labor.

For this analysis of agribusinesses the only difference between economic and financial rates of return is the imputed value of farm family labor. The farmer makes financial cash outlays for seed, fertilizer, equipment, and hired labor. The farmer and his family work in the fields but receive no cash payments for their labor. While there is no financial cost for the farmer, family labor does have an economic value. Economic analysis includes unpaid labor since it has a value or opportunity cost. If there is a choice, the farm family would much rather do something other than working in the hot fields all day, every day. They could work at the homestead, seek work for pay on other farms, work at factories or take some rest. For some crops, such as chilies, red onions, and gherkins, family labor represents a very large input. Some observers suggest that crops such as gherkins would not be viable if farm families had other employment opportunities and gherkin labor was not "free".

Economic analysis is most accurate when it examines completed projects. Only when a project is fully completed and has several years of operations is it possible to know all investment costs and the likely level of future benefits. In the case of Sri Lanka, all of the agribusiness projects are fairly new and none are completed. Thus, any estimate is subject to a wide range of possibilities. For example, in the MARD project crop diversification has just started and very little acreage is in non-paddy crops. Over the next 20 years, what will be the pace of diversification---5 percent a year, or 20 percent or 30 percent? Due to civil strife, approximately half of System B is not irrigated. If peace breaks out irrigated acreage will increase and non-paddy crops will increase. On the cost side, how much of project costs are related to diversification and how much to other goals? For the MED project there is great uncertainty concerning the number of jobs that will be generated. There is also some uncertainty concerning the final costs of the MED project and how to calculate an economic value for the jobs created.

Since there is uncertainty for both MARD and MED concerning both costs and benefits, it is important to be clear about assumptions when making projections. It is also important to think in a range of possible outcomes rather than one specific result. For example, for the MARD analysis there are two sets of financial and economic rates of return. The lower, more conservative estimates are CDIE's while the USAID Mission assumes higher rates of return. Both USAID and CDIE estimates are presented since there is enough uncertainty that it makes sense to think of a range of possible outcomes. The actual results will probably lie somewhere between the two estimates. The same practice was followed for the MED project. Two MED estimated economic rates of return give a high and low range of possible outcomes. The actual rate of return will probably be somewhere between these two estimates.

At the time of this evaluation, the MARD project had been operating five years and had two more years before completion. The MED project had been operating three and a half years and has another two years to run. It was decided to analyze both of those projects since many costs and benefits were established. The Agro-Enterprise (AgEnt) project had been operating for only a year and a half, which was not long enough to provide a good basis for analysis. Other agribusiness projects either lacked data or were too new and thus not suitable for economic analysis.

4.1. MARD PROJECT

The MARD project is designed to increase farmer income in the Mahaweli System by encouraging farmers to switch from paddy (rice) to higher value crops. In assessing project performance, higher income from crop diversification is the key measure of benefits. Costs include USAID and host government project expenditures and the additional production costs for the farmer as he switches to the new crops. For this analysis, rather than focusing on acreage, employment, number of farmers, or project targets and goals, it was decided that the increase in individual farmer incomes would be the most appropriate measure of project benefits. This is consistent with the Project Paper objective of increasing farmer incomes. The analysis focuses on the average income gain for the individual farmer who diversified and the total benefit to all farmers in the MARD project from diversification. The analysis is based upon MARD cultivation census reports[1] for the MARD project area (Mahaweli System

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[1]Sources:
Gleason, J. "Report on Cultivation Census, Mahaweli System B, Yala 1991", MARD Project Report, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, March 1992.

Lalith and Gleason, "Report on the Yala 1992 Cultivation Census, Mahaweli System B", MARD Project Report, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, April 1993.

Gleason, J. "Maha 1992/93 Diversification & Cultivation Census Report", MARD Project Report No. 212, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, August 1993.

B). The census reports include data on: acreage in rice, acreage in other crops, production levels and yields for each crop, inputs required for each crop (capital, labor, fertilizer, pesticides, etc.), and the market value of each crop. Using this data it was possible to determine the number of farmers who had diversified, the costs and income from diversification, and the net benefit of diversification. The net benefit was calculated for the total project and (to put it on a more human basis) for the average farmer who diversified. By taking the increased income for the average farmer who diversified, and multiplying that number by the number of farmers who diversified, it is a simple matter to determine total project benefits.

There are two main crop seasons in Sri Lanka--the Yala and the Maha seasons. Most crop diversification in irrigable fields occurs during Yala. The Maha in System B, with its unpredictable rains, is more suitable for paddy cultivation. There is also rain-fed cultivation in upland areas and fruits and vegetables grown near the farmer's home (homestead cultivation). The project had explicit targets with regard to levels of diversification and level of income increases to be achieved on the irrigated lands in the MARD Project Area. The settlers, who were growing two crops of rice each year, and almost no other crops on the irrigated land, would steadily increase their non-rice crops to reach the following targets:

--During the Yala season, 50 percent of the acreage[2] would be in non-rice crops.

--During the Maha season, 10 percent of the acreage would be in non-rice crops.

--Those farmers who diversify would increase their incomes by 50 percent above what they would have earned cultivating only paddy.

Financial and Economic Analysis

Farm-level Financial Analysis

In the 1992/93 Maha season approximately 20 percent of farmers diversified at least some portion of their irrigated acreage into non-rice crops. Based on a sample survey for one season, farmers who diversified were able to increase their net incomes by 18 percent, as compared to just growing rice. In financial terms that translates into an increased income of $67 (equivalent) for each farmer who diversified. In the 1993 Yala season, 33 percent of

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[2] The project targets have been stated in a number of different ways at different times. The original Project Paper had a target of diversifying 85 percent of Yala acreage and 15 percent of Maha acreage. Those percentages were changed to 50 percent and 10 percent in the 1991 amendment. In recent papers the MARD project has stated the target as 85 percent of farmers diversified in Yala and 15 percent of farmers in Maha. There is a big difference between the percent of acreage and percent of farmers. Presently some 30 percent of farmers have diversified but since most of their crop acreage is still rice, only 5 percent of the total System B acreage is diversified.

farmers diversified and were able to increase their income by an estimated 19 percent, or $62 per farmer. All of these financial increases are on a net basis, after farmer costs have been deducted (except farm family labor which is not treated as a cost for financial analysis but as a cost for economic analysis). It is important to remember that these returns of 18 percent are for a 5 to 6 month crop season and most farmers can grow two crops a year. On an annualized basis, that is equivalent to a 40+ percent rate of return--a very handsome rate of return for new crops in any LDC. This is also moving toward the project target of a 50 percent increase in income for farmers who diversify out of paddy.

The project target for the number of farmers who will diversify in the Maha season has been over-achieved (20 percent verses a target of 15 percent). For the Yala season, diversification, at 33 percent, is well below the target of 85 percent of farmers. If MARD continues to identify and promote new crops, if crop diseases are not a problem, if marketing arrangements are efficient, and if prices are favorable, then it should be possible to continue to see increases in the number of farmers who diversify.

For the farmers who have diversified out of paddy into other crops the financial benefits are clear---an 18 percent increase in income for one season. Whatever happens in the future, the achievements to date, for diversified farmers, are good. Those farmers, in just a few years, have realized a substantial income increase (see Table 4-2). In the future they may expand their acreage in non-paddy crops and achieve further income increases. Other farmers may follow their example and start to diversify their crops.

Farm-level Financial and Economic Analysis

Economic analysis takes the financial analysis one step further by adding in the value of farm family labor. A non-rice crop such as gherkins requires the farm family to provide 587 workdays per hectare, per season. This compares to only 80 workdays of family labor for paddy. When the value of family labor is included it increases the cost of all crops. However, since non-paddy crops require substantial more family labor than paddy, it greatly increases production costs for non-paddy crops.

The next question is how to place an economic value on family labor. Hired labor costs approximately $1.50 per day. Family labor may not be as productive as hired labor and family labor may lack other employment opportunities. Thus the opportunity cost of family labor should be less than $1.50. Table 4.2 values family labor at two alternative rates--$1 a day or $0.50 per day.

As table 4.2 shows, the farmer's financial returns drop substantially when the economic value of family labor is included. While crop diversification makes financial sense, in economic terms (which means valuing the farm family's labor input) it becomes much less profitable. In fact, during the Yala Season, if family labor is valued at $1 a day, diversification generates almost no economic advantage as compared to paddy farming. At $0.50 a day economic returns are modest for both the Maha and Yala Seasons.

Total Project Financial and Economic Costs and Benefits

Another way of looking at costs and benefits is to measure the total net benefits for all farmers against total MARD project costs. To achieve crop diversification, the project had to invest in experiments to identify profitable, alternative crops, and examine export markets. There is also extensive training, technical assistance, research, and the purchase of equipment required to assure success. The original Project Paper estimated these USAID project costs at $23 million over the life of the MARD project. (The USAID Mission expects to obligate only $19.6 million.) In addition, the Government of Sri Lanka plans to contribute an equivalent $11 million to the MARD project. These project costs need to be compared to the benefits received by project farmers.

Table 4.2 shows the estimated net farmer financial benefits for the Yala and Maha crops in 1993. They total $393,800 equivalent. Table 4.5 projects those benefits into the future, assuming that they increase 5 percent a year for the next ten years. Those benefits are then measured against USAID project expenditures to determine net, yearly project benefits (see table 4.5). Since the project benefits of $6.4 million are substantially less than USAID project expenditures of $19.6 million, the economic rate of return is highly negative. If the $11 million contribution of the Government of Sri Lanka is included, the financial rate of return is even more negative.

The negative financial rate of return is due to the fact that only a relatively small percentage of irrigated acreage is being converted to non-paddy crops. Out of a total of 10,000 to 12,000 hectares, only 160 hectares were in non-paddy crops in the Maha season and 597 hectares in the Yala season (see Table 4.2). In addition, the ratio of net return of non-paddy over paddy crops is not that high. These are the two factors that keep project financial benefits low--the small amount of acreage in diversified crops and the low (relative) returns to non-paddy crops.

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Table 4.2 shows that farmer net economic benefits are substantially lower than farmer net financial benefits.
Diversified crops require substantial inputs of farm family labor which are an economic cost but not a financial cost. Thus, the total project's economic rate of return is even more negative than the financial rate of return.

Alternative Approaches

The above analysis is CDIE's "best judgement" of financial and economic costs and benefits for the MARD project. However, if some of the assumptions and projections are changed the results will also change.

The economic analysis assesses project benefits and costs against the project objective of "higher farmer income through diversification", which was contained in the original Project Paper and the Amendment of 1991. The project also includes a number of ancillary and related efforts that are only indirectly related to diversification. In addition to crop diversification the project includes other tasks such as new land development, increasing crop acreage, improving water management and irrigation efficiency, support for farmer organizations, services outside System B, agricultural services development and a number of other tasks. They generate benefits (which are hard to quantify), and which are separate from the benefits of diversification. The financial analysis can be recalculated excluding project costs that do not seem directly related to diversification. The USAID Mission has suggested that if those costs were excluded, total A.I.D. project costs should be reduced from $19.6 million (or $23 million in the PP) to $5.6 million and the host government contribution of $11 million should be excluded from the analysis.

A different question deals with the rate of crop diversification in future years and prices for those crops. In this area there can be great optimism but also great uncertainty---in future years what crops will prove viable, what will be their prices, will buyers be available, and what about export markets? The analysis assumes that revenues from the sale of non-rice crops will increase 5 percent a year for the ten years after 1993. That is a reasonable but conservative assumption. If conditions are very good, revenues may increase 20 or 30 percent a year for 20 or 30 years into the future. A number of alternative scenarios are possible with more robust assumptions concerning revenue growth. They generate rates of return ranging from 5 percent up to 16 percent. The USAID Mission has suggested a financial scenario of a $5.6 million project investment with benefits growing rapidly at the start of the project and then tapering off. That scenario generates a financial rate of return of 13.5 percent and appears in Table 4.36 The USAID Mission has another scenario where "peace breaks out" and MARD acreage increases dramatically. That scenario generates an 18 percent financial rate of return. For the economic analysis, where farm family labor is included as a cost, the project yields a negative economic rate of return, even with the optimistic USAID Mission estimates (see Table 4.4).

Beyond the issues of financial and economic rates of return, there are several other factors that are of interest:

1. Employment. Table 3.2 shows, on a per hectare basis, the relatively low labor requirements for paddy as compared to non-paddy (diversified) crops. For most of the non-paddy crops the labor requirement is four or five times greater than for paddy. Even with a much greater labor requirement, non-paddy crops have proven to be more profitable to then

farmer than has paddy[3]. In addition, non-paddy crops require a relatively even amount of labor throughout the season which means that the farm family can provide much of the labor needed. In contrast, the labor requirement for paddy is concentrated at the time of planting and harvesting and labor must be hired. In a country with employment problems, particularly in the rural areas, the high labor needs of non-paddy crops could have important benefits, allowing family members to remain on the farm and providing more work for landless laborers.

2. Capital. Paddy's per hectare return to capital was one of the lowest of all crops (see Table 4.6). The financial returns to chili, red onion, and gherkin are three or four times greater than paddy. In planning an investment strategy, funds should be invested in crops with the highest rate of return---those are non-paddy crops. In particular, with paddy yielding a financial rate of return of 27 percent, which is about the same as the commercial lending rate in Sri Lanka, capital investments in paddy do not make financial sense. Almost all of the non-paddy crops yield a higher financial return.

3. Equity. There is always a concern that new crops and new approaches may benefit wealthier farmers at the expense of poorer farmers. Table 4.7 examines Maha season crop diversification from the perspective of the farmer's income level. In MARD, all farmers have approximately the same amount of irrigated cropland. No matter whether they were low income farmers or higher income farmers, they all benefited from crop diversification. The higher income farmers (who may be better farmers) achieved a much greater financial return from their paddy crop as compared to lower income farmers. They also achieved a higher net benefit from diversification. However, farmers at all income levels appear to diversify their acreage to roughly the same extent.

4. Agribusiness. The TESS packhouse provides seasonal employment for 25 to 50 farm women who clean and pack produce (they earn approximately $1.25 per day). These women have few alternative employment opportunities. There are also packhouse technical workers, drivers, and other staff who have jobs. A feedmill is nearing completion and a number of project-funded "polas" (markets) are operating.

5. Security. Investor and farmer confidence is a problem--farmers, investors, and businesses have been hesitant to move to the MARD project areas because of continuing civil strife. Consequently, only 60 percent of the irrigated area has been settled.

There are anecdotes concerning the increase in traders, the growing number of village markets, additional truckers coming to the area, and increased savings and investment generated by crop diversification. It was not possible to measure or quantify those benefits.

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[3] This is due in part to the MARD project assumption that farm family labor is available at no cost. If that labor is valued at its opportunity cost the economic returns to non-rice crops are substantially lower.

4.2. MAHAWELI ENTERPRISE DEVELOPMENT PROJECT (MED)

The MED project goal is to raise the median income in Mahaweli to the national level. The project purpose is to accelerate private enterprise job creation in Mahaweli and, secondarily, to strengthen the government's commitment to market oriented development. The project is designed to accelerate private enterprise employment at all levels, from microenterprise to large-scale ventures, through increased private investment and the promotion of high-value crop production, processing, and export. It is important to note that the project is not limited to just agribusiness--it supports a broad range of business efforts outside of those related to agricultural products.

The Project Paper sets specific job creation targets. Since job creation is central to the project and the number of jobs created is the measure of project performance, it makes sense to focus on jobs. For this economic analysis, the number of jobs created is taken as the measure of economic benefits.[4] Project costs (both USAID and the Government of Sri Lanka) are treated as the economic costs.

The USAID project is divided into three components--policy reform, support for small-scale and microenterprises, and support for medium- and large-scale enterprises. The USAID Mission expects to obligate only $10.9 million of the $15 million included in the Project Paper. Of the $10.9 million, $1.5 million is not directly related to job creation so it is excluded from the analysis. Excluding $1.5 million, the USAID input drops to $9.4 million. Of the Government's contribution of $2.8 million, approximately $0.8 million is not directly related to Mahaweli employment. Thus, for this economic analysis, the total project cost is $11.4 million--USAID $9.4 million and the Government of Sri Lanka $2.0 million.

On the benefits side, Table 3.3 shows the 10,000 jobs generated from 1991 to 1993 (excluded are jobs in garment factories since they are not directly related to MED activities). For this analysis it is assumed that employment continues to grow to a total of 16,000 in 1996 and then slowly declines in later years, after project completion. (See table 4.8)

The next question is, how to value the jobs created? There are few controls or regulations on wages in the rural areas of Sri Lanka so wages paid to workers may be the best measure of labor productivity and labor value. While competition at times is limited, it is hard to find workers if cash wages do not at least match the usual rural wage rate of Rs. 60 to Rs. 75 per

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[4] In an economic sense the new investment will generate benefits to all factors of production---land, labor and capital. Data on benefits to land and capital, as a result of MED activities, are very difficult to estimate. It is much more practical to gather employment and wage data. Thus, the analysis looks only at the benefits to labor. Since most of the activities tend to be labor intensive, this approach should give a relatively good indication of benefits to the economy.

day (which is equivalent to $1.25 to $1.50 a day). It appears that wages have been set competitively and reflect the marginal productivity of labor.

Unemployment in Sri Lanka is officially listed at 12 percent, but that figure may miss many of the unemployed and underemployed. There is also seasonal unemployment in agricultural areas like the Mahaweli. On the other hand, during peak agricultural times, such as rice harvesting, there are labor shortages.

There are some people who are unemployed and the jobs created by MED for those people, represent a 100 percent economic benefit to the economy. However, most people are not completely idle and are engaged in some economic activity (often of very low productivity). They may be working at home or in the fields and producing only the equivalent of Rs. 30 to Rs. 50 a day. They are only too happy to give up their low paying work for a Rs. 60 or Rs. 75 job created by the MED project.

It would be an error to value all of the new employment at the wage paid since most of those workers were doing some type of work before. Their previous work may have been of very low productivity, but it did have some value. For this analysis, the value of the new job, less the value of the old job, is the measure of economic benefits. For the sake of simplicity, it will be assumed that all workers receive wages of $1.50 a day in their new jobs, and they were only producing $0.50 to $1 a day at their previous work. The net economic benefit is $0.50 to $1 a day per job created. If the new jobs produce 300 work days a year, the net benefit is $150 or $75 per year, per job.

Table 4.8 projects employment growth and project costs. At $150 a year per job the project yields a return of 21 percent. If the jobs are valued at only $75 per year, the rate of return drops to only 1 percent. Since there is great uncertainty concerning the number of jobs that will be created, the two economic rates of return (21 percent and 1 percent) should be viewed as the outer limit of a range of possibilities. The actual rate of return will lie somewhere in between---possibly 10 percent.

There are several other ways of looking at economic costs/
benefits which hinge on assumptions concerning project benefits (employment created) and costs (USAID outlays). Lower estimates of employment would sharply reduce benefits and rates of return.

A final way of looking at the issue is to determine the cost per job created. There are approximately 14,000 permanent jobs created. Against the total project cost of $11.4 million, the cost per job created is $814. For a country with a per capita GNP of approximately $500, that seem reasonable and not excessive.

These estimates, of course, are very tentative and in a sense speculative since the project has only been in operation for two years. It is not clear whether, or when the job creation targets will be met. Given the uncertainties, these projections should be viewed with some caution.

TABLE 4.1
MARD SYSTEM B
YALA SEASONS--1991, 1992, 1993

	1991	1992	1993
Total area in crops (ha.)	10,106	10,996	12,378
Area in non-paddy crops (ha.)	478	577	597
Number of Farmers that have diversified some cropland	3,562	3,423	4,190
Farmers that have diversified some cropland (percent)	36	35	33
Share of cropland in non-rice crops (percent)	5	5	5
Increased income for farmers who have diversified ($ eqiv.)	18	108	n.a.
Increased income for farmers who have diversified (percent)	5	27	n.a.
Increased income for total System B; includes farmers who have diversified and those that have not (percent)	2	8	n.a.

Sources:
Gleason, J., "Report on Cultivation Census, Mahaweli System B, Yala 1991", MARD Project Report, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, March 1992.

Lalith and Gleason, "Report on the Yala 1992 Cultivation Census, Mahaweli, System B", MARD Project Report, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, April 1993.

Rs. 41.4= $1 in 1991, Rs. 44 = $1 in 1992, Rs 48=$1 in 1993

TABLE 4.2
MARD System B
Financial and Economic Benefits From Crop Diversification-1993
(In U.S. $'s)

	Maha Season	Yala Season
Number of Farmers Who Diversified Their Crops	2,000	4,190
Diversifying Farmers as a Percent of Total Farmers	20 %	33 %
Hectares Planted in Diversified Crops	160	597
FINANCIAL RETURNS (Family labor not a cost)		
Farmer's Financial Income if Only Rice Had Been Planted	$364	$326*
Farmers Financial Income From Diversified Planting	$431	$388*
Increase in Farmer's Financial Income By Diversification	$ 67	$ 62*
Total Financial Benefit From Crop Diversification For All Farmers on Irrigated Land	$134,000	$259,800*
ECONOMIC RETURNS (Family labor valued at $1 or $0.50 per day)		
Farmer's Economic Income if Only Rice Had Been Planted	$284 or 324	$246 or 286*
Farmers Economic Income From Diversified Planting	$315 or 373	$247 or 317*
Increase in Farmer's Economic Income By Diversification	$ 31 or 49	$ 1 or 31*
Total Economic Benefit From Crop Diversification For All Farmers on Irrigated Land	$62,000 or $98,000	$4,190 or $129,890*

Note: 1 US$= Rs 48 in 1993; * = CDIE estimate

TABLE 4.2 continued

The only difference between the economic and financial analysis is in the valuation of family labor. The financial analysis ignores family labor since it does not require a cash outlay. The economic analysis includes an imputed value for the labor provided by the farm family. Paddy requires 80 days of family labor per hectare and other crops require an average of 517 days of labor per hectare. For the economic analysis family labor is valued at two alternative rates--$1 a day or $0.50 a day. This compares to the daily wage rate for paid labor of approximately $1.50 per day.

	Family Labor Allocations Between Rice and Other Crops				
Crop	Family Labor Days per Hectare	Maha Crop Hectare Share (%)	Yala Crop Hectare Share (%)	Total Maha Labor Days	Total Yala Labor Days
RICE	80	92%	86%	74	69
OTHER	517	8%	14%	42	72
Total		100%	100%	116	141
(Value of family labor at $1 per day)				$116	$141
(Value of family labor at $0.50 per day)				$ 58	$ 70

Data sources:

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TABLE 4.3

MARD System B--Financial Rate of Return
USAID Mission Scenario Two*
Reduced Costs and Increased Benefits
(13.5 percent financial rate of return)

Year	A.I.D. Expenditures	Farmer Benefits	Percent Increase in Benefits	Net Project Benefits
1988	24.1	0.0		-24.1
1989	24.1	113.0	0.0	88.9
1090	925.1	157.0	39.0	-768.1
1991	486.6	234.0	49.0	-252.6
1992	730.2	297.0	27.0	-433.2
1993	657.4	394.0	33.0	-263.4
1994	1533.8	492.5	25.0	-1041.3
1995	1217.4	591.0	20.0	-626.4
1996		709.2	20.0	709.2
1997		815.6	15.0	815.6
1998		897.1	10.0	897.1
1999		986.9	10.0	986.9
2000		1060.9	7.5	1060.9
2001		1140.4	7.5	1140.4
2002		1197.5	5.0	1197.5
2003		1257.3	5.0	1257.3
TOTAL	5598.9	10343.3		4768.5

Note: Another USAID Mission estimate (Scenario One) assumes that civil strife ends and System B acreage expands. That scenario yields a financial rate of return of 18.3 percent.

TABLE 4.4

MARD System B--Economic Rate of Return
USAID Mission Scenario Two*
Reduced Costs and Increased Benefits
(negative economic rate of return)

Year	A.I.D. Expenditures	Farmer Benefits	Percent Increase in Benefits	Net Project Benefits
1988	24.1	0.0		-24.1
1989	24.1	65.0	0.0	40.9
1090	925.1	90.0	39.0	-835.1
1991	486.6	135.0	49.0	-351.6
1992	730.2	171.0	27.0	-559.2
1993	657.4	228.0	33.0	-429.4
1994	1533.8	285.0	25.0	-1248.8
1995	1217.4	342.0	20.0	-875.4
1996		410.0	20.0	410.0
1997		472.0	15.0	472.0
1998		519.0	10.0	519.0
1999		571.0	10.0	571.0
2000		614.0	7.5	614.0
2001		660.0	7.5	660.0
2002		693.0	5.0	693.0
2003		728.0	5.0	728.0
TOTAL	5598.9	5983.0		384.1

Note: Economic rate of return analysis values farm family labor at $0.50 per day.

TABLE 4.5
MARD SYSTEM B
USAID EXPENDITURES, FARMER BENEFITS, AND NET PROJECT BENEFITS
($ 000)

YEAR	USAID EXPENDITURES	FARMER BENEFITS	NET PROJECT BENEFITS
1988	100	0	-0.100
1989	100	113	+0.013
1990	3,800	157	-3,643
1991	2,000	234	-1,766
1992	3,000	297	-2,703
1993	2,700	394	-2,306
1994	6,300	414	-5,886
1995	1,600	434	-1,166
1996	0	456	+456
1997	0	479	+479
1998	0	503	+503
1999	0	528	+528
2000	0	554	+554
2001	0	582	+582
2002	0	611	+611
2003	0	642	+642
TOTAL	19,600	6,398	-13,202

Sources:

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TABLE 4.6

MARD SYSTEM B
MAHA SEASON 1992/93
GROSS AND NET RETURNS PER HECTARE
RATE OF RETURN ON FARMER'S CAPITAL

CROP	Gross Return $ per ha.	Net Return per ha.	Rate of Return on Capital
Paddy (rice)	662	356	27 percent
Chili	1,465	903	100 percent
Cowpea	281	178	69 percent
Red Onion	1,454	968	103 percent
Gherkin (cucumber)	2,194	1,405	76 percent
Okra	978	462	6 percent
Brinjal	1,172	599	24 percent
Greengram	358	259	163 percent

Note: US$1=RS 48

Source: Gleason, J., "MAHA 1992/93 Diversification & Cultivation Census Report", MARD Project Report No. 212, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, August 1993

TABLE 4.7

MARD SYSTEM B
MAHA SEASON 1992/93, SAMPLE SURVEY
FAMILY INCOME INCREASE FROM GROWING NON-PADDY CROPS PER FAMILY FARM

Income Groups By Income Quartile	Average Income $	Income if Only Paddy $	Average Increase $	Percent Increase percent	Area in non Paddy Crops percent
Lowest 25 percent	174	147	27	18.2	13.1
2nd Lowest 25 percent	341	313	28	9.1	11.3
2nd Highest 25 percent	515	449	66	14.6	12.9
Highest 25 percent	709	558	151	27.2	13.1
OVERALL AVERAGE	431	364	67	18.4	12.6

Note: U.S.$1 = RS 48

Source: Gleason, J., "MAHA 1992/93 Diversification & Cultivation Census Report", MARD Project Report No. 212, Mahaweli Authority of Sri Lanka, Pimburattawa, Sri Lanka, August 1993

Table 4.8

Mahaweli Enterprise Development (MED) Project
Project Costs, Benefits and Rate of Return

Year	AID and GSL Expend.	Total Jobs Created	Total Value of Jobs (at $150 per job)	Total Value of Jobs (at $75 per job)	Net Project Benefits (at $150 per job)	Net Project Benefits (at $75 per job)
	$ mil.	number	$ mil.	$ mil.	$ mil.	$ mil.
1990	0.4	0	0	0	-0.4	-0.4
1991	2.2	3181	0.5	0.2	-1.7	-2.0
1992	2.1	7610	1.1	0.6	-1.0	-1.5
1993	2.4	10123	1.5	0.8	-0.9	-1.6
1994	2.9	12000	1.8	0.9	-1.1	-2.0
1995	1.4	14000	2.1	1.1	0.7	-0.4
1996	0	16000	2.4	1.2	2.4	1.2
1997	0	15500	2.3	1.2	2.3	1.2
1998	0	15000	2.3	1.1	2.3	1.1
1999	0	14500	2.2	1.1	2.2	1.1
2000	0	14000	2.1	1.1	2.1	1.1
2001	0	13500	2.0	1.0	2.0	1.0
2002	0	13000	2.0	1.0	2.0	1.0
2003	0	12500	1.9	0.9	1.9	0.9
TOTAL	**$11.4l**					
Econ Rate of Return	**%**				21 %	1 %

CHAPTER 5

THE LESSONS LEARNED

This last chapter seeks to identify a few important lessons derived from the Sri Lankan experience. Although during the past four years, the program managers, policy makers, and other experts have accumulated considerable experience and insights, the focus of the discussion here is only those lessons which have direct relevance to the policy and program issues facing USAID global agribusiness interventions. Lessons of an operational nature or those which have no relevance outside Sri Lanka are not discussed here.

1. Investments by International Agribusiness Firms

An attempt was made in Sri Lanka to induce international firms to invest in the processing and marketing of nontraditional agricultural exports. The program expended time and efforts on contacting international agribusiness firms, meeting with their representatives, and generating information packages for them. Such efforts did not succeed for many obvious reasons.

International firms are cautious in making investments in a country, like Sri Lanka, which has only recently started to liberalize and decontrol its command economy. They are highly sensitive to the continual ethnic and civil strife which threatens political stability in the country. More importantly, they usually prefer large farms to grow high-value crops in abundant quantities, which can assure them a continual supply and economies of scale. The ownership of large farms by foreign corporations is hardly politically acceptable in Sri Lanka. Finally, the country lacks a reasonably developed institutional and physical infrastructure, which international agribusiness firms require for farming, processing, and marketing.

As a result, despite some comparative advantages of Sri Lanka, such as proximity to rich, growing Asian markets as well as closer proximity to Europe than East Asia, low wages and high literacy, international firms did not invest in the agribusiness sector. Only recently have a two firms made some direct investment.

The lesson: USAID agribusiness programs should not be predicated on the assumption that international agribusiness firms can be quickly induced to invest in a country simply because significant policy and institutional reforms are underway and the country has some comparative advantages. The firms are more cautious in making direct investments. Therefore, the programs should seek to facilitate flexible, mutually profitable arrangements between local and international firms. Such arrangements may focus on the transferring of production and management technology, supply of inputs, and access to international markets.

2. Linking Small Farmers and Agribusiness Firms through Contract Farming

Although it was not envisaged by national planners and project designers, contract farming has

emerged as a major institutional arrangement linking small farmers to agribusiness firms in Sri Lanka. As mentioned in earlier chapters, gherkins, the main nontraditional agricultural export crop, are primarily produced through contract farming, which has proved to be mutually advantageous to farmers and agribusiness firms. To small farmers, contract farming has provided necessary inputs and an assured market while to agribusiness firms, it has assured a continual supply of agricultural commodities at predetermined prices. Farmers are receiving a fair price for their crops because of competition between agribusiness firms and MASL oversight of settlers' interests. Moreover, agribusiness firms have found it more economical to purchase export crops from farmers than to cultivate them on their own farms. The high literacy rates among farmers, careful monitoring by the government, and growing involvement of farmers organizations and PVOs have helped to safeguard the interests of farmers.

The lesson: USAID's agribusiness programs designed to promote the export of high-value crops should seriously explore the feasibility of contract farming under which small farmers can sell their produce to agribusiness firms. While promoting contract farming, efforts should also be made to develop and strengthen grassroots organizations to improve the bargaining position of small farmers vis-a-vis agribusiness firms.

3. Role of Microenterprises in Agribusiness Sector

In Sri Lanka, microenterprises involved in agricultural input supply, processing, and marketing have been growing both in number and size. As mentioned earlier, they are generating increasing employment opportunities in the Mahaweli region. Such enterprises, which primarily cater to domestic markets, could benefit from program assistance, particularly in the form of credit, marketing advice, and management training. Interviews with the owners of microenterprises and other experts revealed that with timely and focused assistance from the program, they can significantly contribute to value-added processing and employment generation. It is interesting, however, that the role of microenterprises in the promotion of the agribusiness sector was not fully recognized in project papers.

The lesson: Project designers should carefully examine and assess the potential role which microenterprises can play in stimulating and expanding the agribusiness sector, particularly in underdeveloped regions.

4. Benefits to Small Farmers and Landless Workers

Although the progress of the agribusiness program has been slow, and it has not achieved its targets, available evidence indicates that small farmers, as well as landless workers in rural areas, have benefited from it. The incomes of small farmers who participate in the program have increased and the employment opportunities in rural areas have expanded.

Moreover, the program has not accentuated differences in the size of landholdings. At the beginning of the program, there was a concern in political circles that, as a result of the cultivation of high-value crops, a small group of successful farmers would acquire lands from

less successful farmers through informal, arrangements (it is not legally permissible to transfer the land for profit), converting them virtually into landless workers. This apprehension proved to be unfounded partly because the commitment of the government and public to equity issues inhibited these informal arrangements from occurring, and mainly because contract farming has enabled small farmers to grow high-value crops.

The lesson: The agribusiness program can, and does, benefit small farmers and landless laborers. More importantly, it does not necessarily accentuate agrarian differentiation provided policy and institutional arrangements exist to safeguard the interests of small farmers.

5. Sensitivity to Gender Issues

As discussed in chapter 4, the cultivation of high-value export crops, particularly the gherkin, has mixed effects on women. While gherkin cultivation has enhanced women's incomes and improved their standard of living, it has also increased their workload. Employment in agribusiness firms or work on household farms has not resulted in any significant decline in their traditional household responsibilities. Moreover, with the exception of microenterprises, women-owned agribusinesses are practically nonexistent in the country. Social and economic, rather than legal, barriers explain the current situation.

The lesson: At the design stage, the implications and effects of agribusiness growth on the status and role of women should be carefully examined. Particular attention should be given to: (a) women ownership of agribusiness enterprises, (b) employment potential and wages in agribusiness enterprises, and (c) the workload of women farmers and workers.

6. Balancing Domestic and Export Markets

In Sri Lanka the agribusiness program has, by and large, focused on nontraditional agricultural export crops, at least, during its early stages. Much of its technical assistance, training, and support has been directed at exploring export opportunities, inducing large international firms to make investments, and strengthening the institutional infrastructure for agricultural exports. The program has paid less attention to domestic market development, which also has a potential for significant growth. For example, the country imports, in large quantities, agricultural commodities such as onions, peppers, and coriander, which can be economically produced with careful planning and targeted technical assistance. In other cases, minor improvements in the transportation system in Mahaweli can stimulate the cultivation of commercial crops and value-added processing for local and national markets. A limited focus on the domestic markets has undoubtedly undermined the potential contribution of the agribusiness program to the growth of the agricultural sector.

The Lesson: In economies where domestic markets for commercial crops or value-added processing are not developed, agribusiness programs should also attempt to remove the constraints on the domestic market in order to stimulate economic growth. Assistance designed to identify these constraints could have significant payoff.

7. Reliance on Private Voluntary Organizations

An innovative feature of the agribusiness program in Sri Lanka has been its reliance on private voluntary organizations to manage and implement a number of projects. As indicated in the first chapter, at least three out of the five projects, which constitute the core of the program, are managed by PVOs with a minimal management role for the government. Such an arrangement has not only provided flexibility to project managers, but has also enabled them to take quick, decisive actions. On the other hand, the two major projects managed by the public sector--MARD and MED--encountered prolonged delays partly because of slow decisions, or avoidance of decisions, by the government officials, who are afraid of making a 'political' mistake or are incapacitated by complex, cumbersome bureaucratic procedures.

The lesson: In order to encourage individual initiative and increase operational flexibility, national planners and USAID project designers should seriously examine the option of entrusting the management and implementation of agribusiness projects, or their major components, to private voluntary organizations.

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ANNEX

Examples of Firms Involved in Gherkin Exports

1. Forbes Agricultural Services (Pvt) Ltd. is a limited liability private company owned by Forbes & Walker, Ltd. The USAID program assisted the company by bringing a consultant to set up its gherkin project and help in its marketing activities. This effort has evidently succeeded, and the firm now has 20 % of the export market share in gherkins, exporting 1,331 tons in 1992. The firm depends on contract farmers for the supply of gherkins.

2. Sunfrost - Hayley & Co. continues to be the leader in the export of semi-processed gherkins having 40 % of export market share. It ships gherkins in food-grade plastic barrels to Asian and European countries and even to the U.S. Sunfrost which has a 32-year lease for a 50-acre farm from the Mahaweli authority, started gherkin cultivation with the help of a Dutch agronomist. While its initial attempt was technically successful, the firm realized that it could not compete in international markets because of its high labor costs. Therefore it took the route of contract farming.

Examples of Firms With Nontraditional Agricultural Exports

1. In 1987, Informatics Agrotech (Pvt) Ltd. obtained a long-term lease on 1,000 acres of land from Mahaweli authorities and started planting cashew trees. By June 1993, it had planted 589 acres with 26,000 cashew trees and planned to complete planting over the next two years. It also inter-cropped 85 acres with coconut, banana, citrus fruits, pineapple, king coconut, mango, melons and chilies. The company has entered into an agreement with the USAID program under which the latter will share 47 % of its cost ($103,643) for conducting genetic, nutritional and entomology research on cashews.

2. CIC Tropical Produce (Pvt) Ltd. has two operations in Mahaweli, each with a small farm using outgrowers. One operation located in System B produces baby corn through 100 outgrowers, out of which 40 % are women. The produce is shipped to England by air, however, the freight costs are unusually high constituting 61.6 % of the total product cost which makes the whole activity economically questionable. CIC had incurred a loss of $17,000 by September 1993.

Table A.1
OWNERSHIP, ASSETS, AND SALES OF MEDIUM AGRIBUSINESS ENTERPRISES

Serial No.	Name of Enterprise	Products	Assisting Agency	Length of Operation (Years)	Ownership	Total Assets Rs.m.	Gross Sales Value Rs.m.	
							1991	1993
1.	Agri Lanka Pvt. Ltd.	fruit processing	MED	2	limited liability company	2.0	-	4.0
2.	Tropical Products Pvt. Ltd.	baby corn production	MARD	1	subsidiary	1.0	-	2.5
3.	Ayomi Traders	rice milling & processing	MED	5	individual	5.0	1.0	5.0
4.	Earth Movers Pvt. Ltd.	vegetables, chillie, mango, coconut, peanuts & teak	MARD	6	limited liability co.	0.6	-	-
5.	Naspa Farm	baby corn, sweet corn melon	MED/MARD	5	individual	0.8	-	1.3
6.	Arunapura Ornamental Fish Association	ornamental fish	MED/MARD	3	partnership	0.3	N.A.	N.A.
7.	Ornamental Fish Association	ornamental fish	MED/MARD	3	partnership	0.2	N.A.	N.A.
8.	Bisokotuwa Rice Mill	rice milling & processing	MED	8	individual	1.4	4.3	4.9
9.	Nadeera Rice Mill	rice milling	MED	1	individual	1.7	11.0	14.3
10.	Kumara Motors	production of agricultural implements	MED	3	individual	0.1	0.1	0.2
11.	Wimalaweera Industries	welding & light engineering	MED	2	individual	0.4	0.1	0.2
12.	Vanathavilluwa Vineyard	grape processing for export	MED	6	limited liability co.	4.0	30.0	23.0
13.	Wirosh Welders	welding-light engineering	MED	2	individual	0.3	0.2	0.4
14.	Amila Coir Industries	coir products manufacture	MED	4	individual	0.2	0.2	0.3
15.	Mahaweli Rice Mill	rice milling	MED	4	individual	1.5	0.5	1.0

TABLE A.2
MEDIUM AGRIBUSINESS ENTERPRISES: EMPLOYMENT, OUTGROWER FARMING AND MARKET

		EMPLOYMENT															Market		
		91						93											
		Full Time		Part Time		Wage Rate		Full Time		Part Time		Wage Rate							
Serial No.	Name of Enterprise	M	F	M	F	M	F	M	F	M	F	M	F	Outgrowers	Processing Facility	Source of Raw Materials	Local	Urban	Exp.
1.	Agri Lanka Pvt. Ltd.	-	-	-	-	-	-	10	-	6	-	100	-	yes	yes	outgrower	20	80	-
2.	Tropical Products Pvt.	4	-	40	40	75	60	7	8	5	5	80	60	yes	no	outgrower	10	20	70
3.	Ayomi Traders	5	-	4	-	80	-	6	-	5	-	100	-	no	yes	farmgate	30	70	-
4.	Earth Movers Pvt. Ltd.	2	-	30	68	50	40	8	-	-	-	75	-	yes	no	market place	60	40	-
5.	Naspa Farm	3	-	8	8	65	55	5	-	5	5	70	60	yes	no	market place	0	0	100
6.	Arunapura Ornamental Fish Association	29	1	-	-			29	1	-	-			no	no	exporters	0	0	100
7.	Ornamental Fish Association	21	-	-	-			21	-	-	-			no	no	exporters	0	0	100
8.	Bisokotuwa Rice Mill	4	-	3	-	150	-	4	-	6	-	175	-	no	yes	farm gate	50	50	0
9.	Nadeera Rice Mill	3	-	2	-	100	-	9	-	3	-	125	-	no	yes	farm gate	0	100	0
10.	Kumara Motors	1	-	2	-	100	-	3	-	4	-	150	-	no	no	market place	80	20	0
11.	Wimalaweera Industries	2	-	1	-	100	-	4	-	2	-	150	-	no	no	market place	60	40	0
12.	Vanathaviliuwa Vineyard	6	-	5	35	65	55	13	2	7	24	85	75	yes	no	outgrower	0	0	100
13.	Wirosh Welders	-	-	-	-	-	-	4	-	2	-	150	-	no	no	market place	100	0	0
14.	Amila Coir Industries	3	1	-	-	60	50	5	1	-	-	100	75	no	yes	market place	50	50	0
15.	Mahaweli Rice Mill	3	-	2	-	60	50	6	-	6	2	85	65	no	yes	market place	25	75	0

TABLE A.3
DISTRIBUTION OF AGRIBUSINESS BY PLANS TO IMPROVE BUSINESS & SYSTEM

PLANS TO IMPROVE	ALL SYSTEMS	
	YES	NO
EMPLOY MORE STAFF	78% (31)	23% (9)
EXPAND PRODUCTION	90% (36)	10% (4)
INVEST MORE CAPITAL	93%	8% (3)
DIVERSIFY	18% (7)	83% (33)
PURCHASE MACHINERY OR EQUIPMENT	90% (360)	10% (4)

TABLE A.4
FIRMS AND OUTGROWERS BY END 2ND QUARTER, 1993

	Name of Firm	Employees	Outgrowers
1.	Heron Agro Products	15	30
2.	Aitken Spence Ltd.		
	Bananas:		25
	Miscellaneous		35
3.	Ceylon Tobacco Co. Ltd.		
	Soya	21	210
	Fruit	6	0
4.	Sunfrost(Gherkins)	10	500
5.	Forbes Ag. Services	25	300*
6.	Pickle Packers Ltd.	71	1312
7.	Vanathavillu Vinyards Ltd.		
	System C	37	600
	System H	30	200
	Total:	215	3212

*Forbes Ltd. has a total of 300 employees and 4000 Outgrowers. The numbers included refer to those in Mahaweli Systems.

Note: The number of outgrowers by the end of 1993 should surpass the 1992 figures. This is not obvious in this table because high-value crops are grown more during Yala than Maha agricultural season.